Trawl Survey of Juvenile Flatfish in Hecate Strait by the *F/V SUNNFJORD*, April 9-26,1985

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ABSTRACT

Fargo, J., J. R. Selsby, and T. Sweeten. 1985. Trawl survey of juvenile flatfish in Hecate Strait, April 9-26, 1985. Can. Data Rep. Fish. Aquat. Sci. 542: 74 p.

The Pacific Biological Station has conducted an annual trawl survey of Hecate Strait with regard to juvenile flatfish since 1980. This report summarizes information from the April 1985 survey, including sampling stations, biological data collected, catch rates of juvenile rock sole and English sole, and ocean temperature (XBT) profiles. Catch rates for juvenile rock sole were lower than previous years while catch rates for juvenile English sole were not consistent with those observed in 1984. Ocean temperatures were near long-term averages for the region.

RESUME

Fargo, J., J. R. Selsby, and T. Sweeten. 1985. Trawl survey of juvenile flatfish in Hecate Strait, April 9-26, 1985. Can. Data Rep. Fish. Aquat. Sci. 542: 74 p.

Depuis 1980, la station de biologie du Pacifique effectue tous les ans un relevé au chalut des poissons plats dans le détroit d'Hécate. Le présent rapport résume les renseignements obtenus lors du relevé d'avril 1985, y compris les stations d'échantillonnage, les données biologiques recueillies, les taux de prises de jeunes soles anglaises et soles du Pacifique ainsi que les profils de températures de l'océan (BT non récupéré). Les taux de prises de jeunes soles du Pacifique étaient inférieurs à ceux des années précédentes alors que les taux de prises de jeunes soles anglaises n'étaient pas cohérents avec ceux de 1984. Les températures de l'océan étaient proches des moyennes à long terme de la Région.

INTRODUCTION

Since 1980 annual trawl surveys for juvenile flatfish have been conducted in Hecate Strait (Stocker et al. 1981; Fargo, Hoyt et al. 1982; Fargo, Harling et al. 1982; Fargo, Cooper et al. 1983; and Fargo, Foucher et al. 1984).

The purpose of the survey is to provide annual indices of abundance for one- and two-year-old rock and English soles. A time series of these abundance indices may be used to predict recruitment for English sole and rock sole provided they are correlated with recruitment indices from results of catch-at-age analysis from the commercial fishery.

This report provides the data collected and summarizes results of the 1985 trawl survey conducted April 9-26. A subsequent report will provide results of analysis of the first 6 surveys with regard to reliability of abundance indices for one- and two-year-old English sole and rock sole.

MATERIALS AND METHODS

The vessel chartered for the survey was the F/V SUNNFJORD, an 84 ft (23.8 m) wooden stern trawler.

Trawling gear was the same as for the 1984 survey (Fig. 3). A Gulf semi-balloon shrimp trawl with a 21.3 m (70 ft) headline and 3.8 cm (1 1/2 in) mesh throughout was used. The sweeplines to the doors were 36.5 m (20 fath) long. The 3.2 x 2.1 m metal V doors used belonged to the vessel.

Haul durations were kept short (30 min) so that the entire catch could be weighed and processed. In addition, individual catch weights were estimated by the vessel skipper. Catches <1300 kg were dumped directly onto a 6 x 6 ft wooden sorting table and the entire catch was sorted and weighed. Catches $\geq$1300 kg were sorted on deck and representative subsamples were taken for measurements following procedures outlined in Westrheim (1967). The sorting table greatly facilitated sorting and sampling of catches and is fully described in Fargo, Harling et al. 1982.

All specimens were measured fork length to the nearest centimeter. Due to a decrease in manpower for the 1985 survey, length frequencies were collected only from English sole, rock sole, and Pacific halibut. Sex was not recorded. Single samples of heads were collected for English sole and rock sole respectively, for age-determination studies at the laboratory.

RESULTS

A total of 74 hauls were completed during the survey (Fig. 1) including 6 unusable hauls (due to snags, crossed doors, wrong depth strata), 1 at night, and 5 replicates.

Bridge log information and catch by species for individual hauls are contained in Appendix table 1. A list of scientific and common names of species caught is contained in Appendix table 2. Principal fish species caught during the survey included:

Species	Weight (kg)	% of total catch
Spiny dogfish	6,922	50.3
Rock sole	1,240	9.0
Skates	1,057	7.7
Ratfish	957	7.0
English sole	779	5.7
Arrowtooth flounder	541	3.9
Pacific halibut[a]	540	3.9
Pacific cod	490	3.6
S. maliger	220	1.6
Pacific sanddab	151	1.1
Rex sole	143	1.0
Flathead sole	138	1.0
Lingcod	107	1.0
Starry flounder	107	1.0
Others[b]	360	2.2
Total	13,752	100.0

[a] Halibut caught were measured for fork length and released.
[b] Individual totals for other species were <1% of the total catch (invertebrates excluded).

SIZE COMPOSITION

A list of biological samples collected during the cruise is contained in Table 1. Fork length measurements were collected from 10,081 specimens comprising 3 species. Incidental species were not routinely sampled as in previous years due to a shortage of staff.

Rock sole length measurements totalled 4185. No length/sex samples were taken. Total size composition is shown in Figure 4 and by haul in Appendix table 3. Heads for ageing were collected from 91 rock sole (haul 68).

English sole length measurements totalled 5084. No length/sex samples were taken. Total size composition is shown in Figure 5, and by haul in Appendix table 4. Heads for ageing were collected from 602 English sole (hauls 50, 52).

Pacific halibut length measurements totalled 119, and are contained in Appendix table 5, by haul.

CATCH RATES

Mean catch rates of the target species by 10-fath depth intervals over the depth range 10-59 fath are listed in Table 2. For juvenile English sole ($\leq$ 30 cm), catch rates peaked at 30-39 fath (641.8 fish/h). For juvenile rock sole ($\leq$ 30 cm), catch rates peaked at 20-29 fath (71.0 fish/h). Peak depths for both species were shallower in 1985 than in 1984 and catch rates were lower. This may be related to cooler water temperatures in 1985 than in 1984.

WATER TEMPERATURES

Six XBT casts were completed -- two in Queen Charlotte Sound, three in Hecate Strait and one in Dixon Entrance (Fig. 2; Appendix table 6).

The warm water trend of 1983-84 was not continued in 1985.

In 1984, ocean surface temperatures averaged 9.0°C in Hecate Strait and 8.5°C in Queen Charlotte Sound. In 1985, ocean surface temperatures averaged 7.4°C in Hecate Strait and 7.4°C in Queen Charlotte Sound. The ocean surface temperature in Dixon Entrance was 6.5°C. The thermocline in Hecate Strait varied from 50 to 90 meters, and in Queen Charlotte Sound was observed at 80 metres. In Dixon Entrance the thermocline was observed at 100 metres.

ACKNOWLEDGMENTS

We wish to extend our appreciation to Captain Per Engelund and crewmen Ray Scowcroft, "Trapper" Lasota, and Rod Cootes. Without the efforts of the captain and crew in regard to sorting and sampling the survey would not have been completed.

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Table 1. Inventory of biological data F/V SUNNFJORD, May 11-24, 1985.

	Appendix table	Length	Length/age	Total
Rock sole	3	4185	91	4276
English sole	4	5084	602	5686
Pacific halibut	15	119	0	119
Total		9388	693	10081

Table 2. Target species catch rates by 10-fath (18-m) depth interval.

Depth interval (fath)	Species	Mean catch rate (kg/h)	Mean catch rate (no/h)[a]	No. of hauls
10-19	English sole	1.3	87.2	15
	rock sole	25.0	14.5	15
20-29	English sole	2.7	85.2	24
	rock sole	71.0	77.2	24
30-39	English sole	50.5	641.8	11
	rock sole	50.7	220.3	12
40-49	English sole	88.5	194.4	9
	rock sole	36.7	207.7	9
50-59	English sole	63.9	491.2	7
	rock sole	4.6	29.0	7

[a]No. $\leq$ 30 cm.

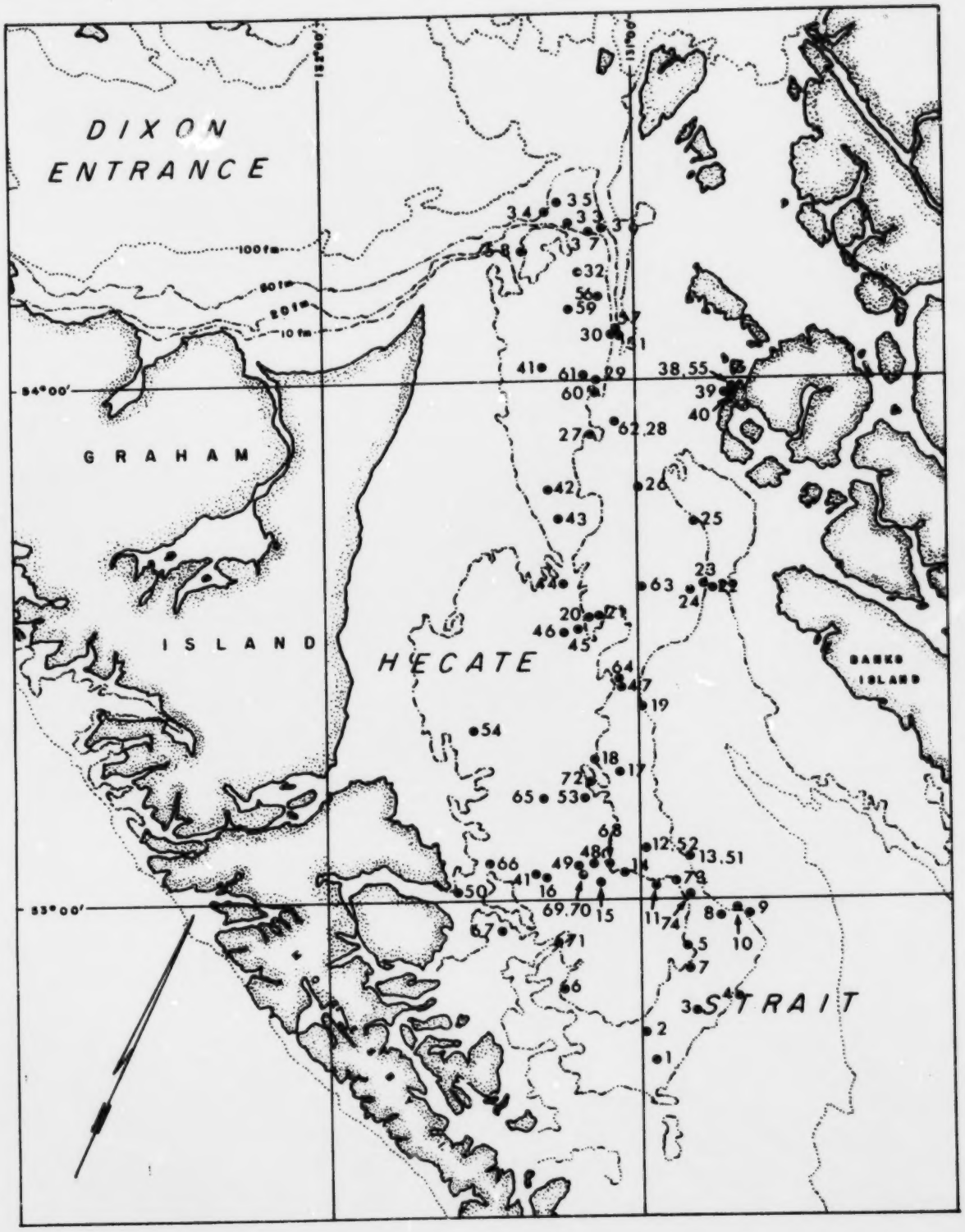


Fig. 1. Haul locations for F/V SUNNFJORD juvenile flatfish survey April 9-26, 1985.

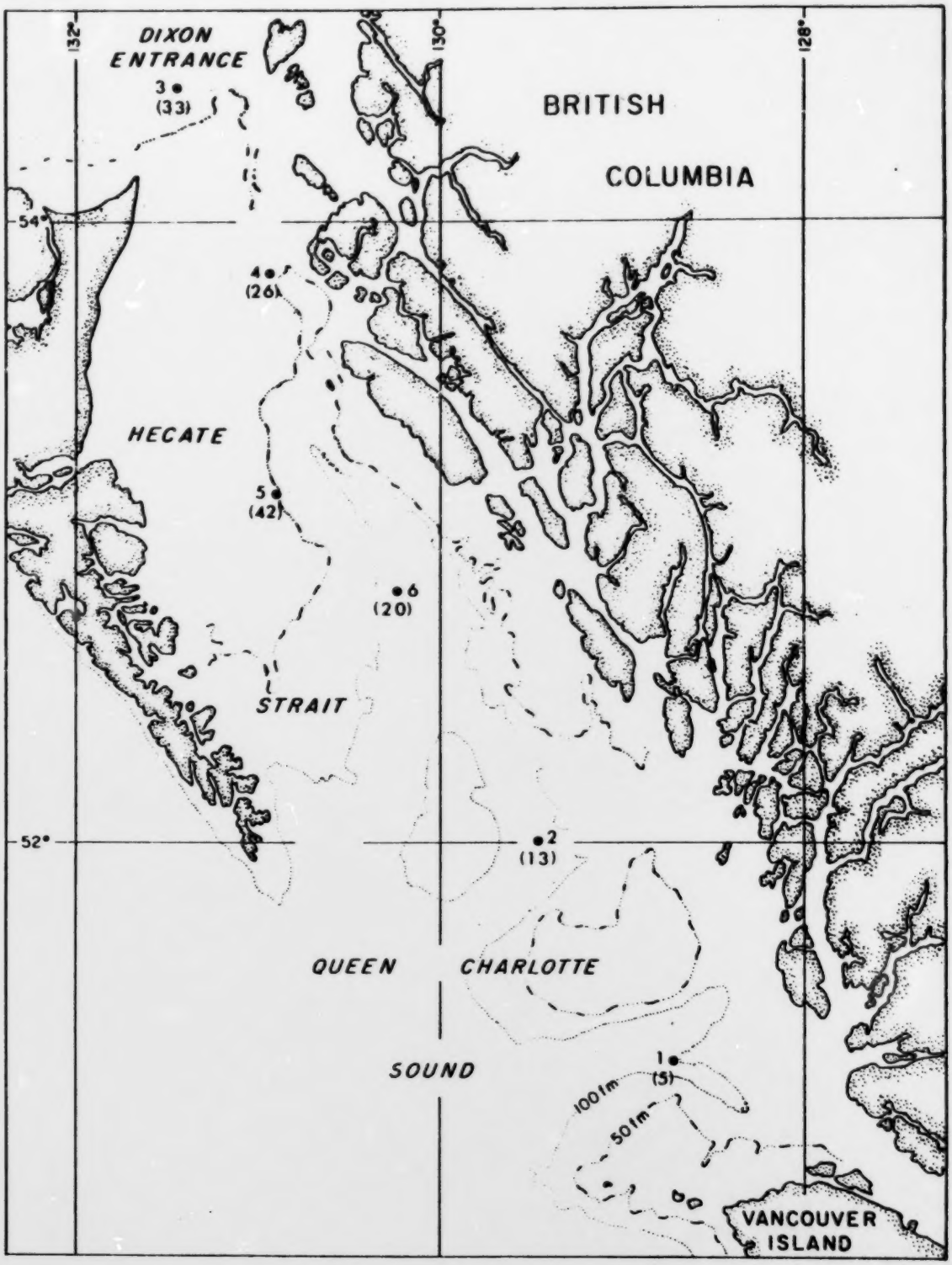
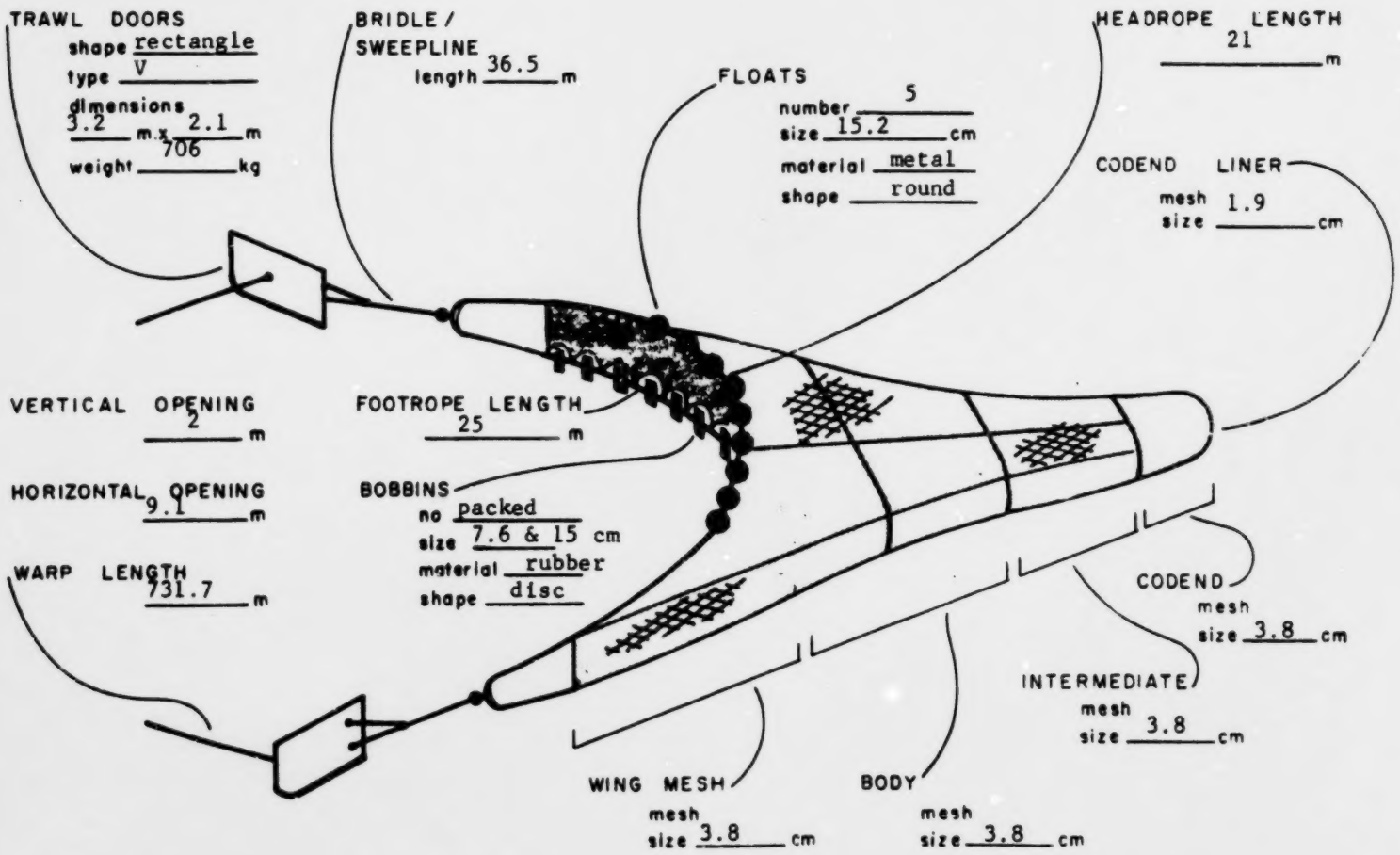


Fig. 2. Oceanographic (XBT) stations occupied by F/V SUNNFJORD April 9-26, 1985.

Fig. 3. NET DIMENSIONS AND CHARACTERISTICS FOR BOTTOM TRAWL

VESSEL F/V SUNNFJORD NET 70 ft Gulf semi-balloon shrimp trawl

OBSERVATION PERIOD April 11-25, 1985



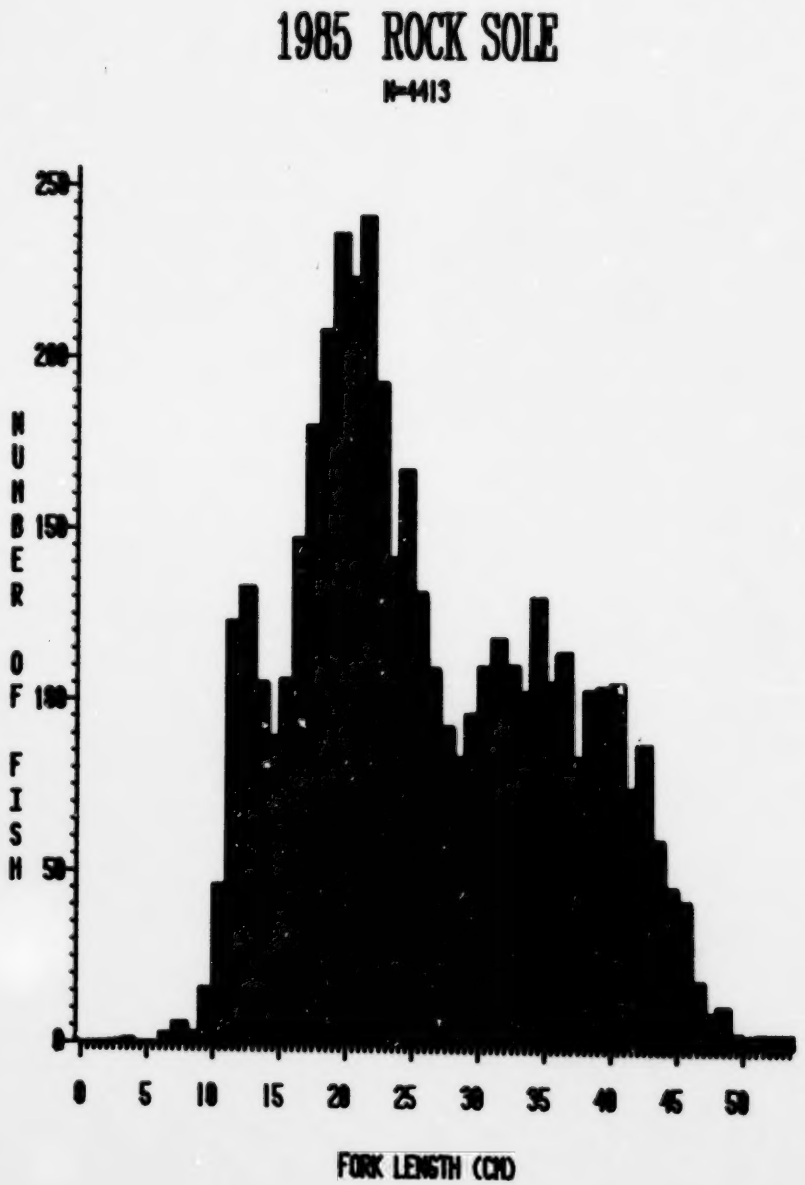


Fig. 4. Total size composition for rock sole caught by F/V SUNNFJORD, April 9-26, 1985.

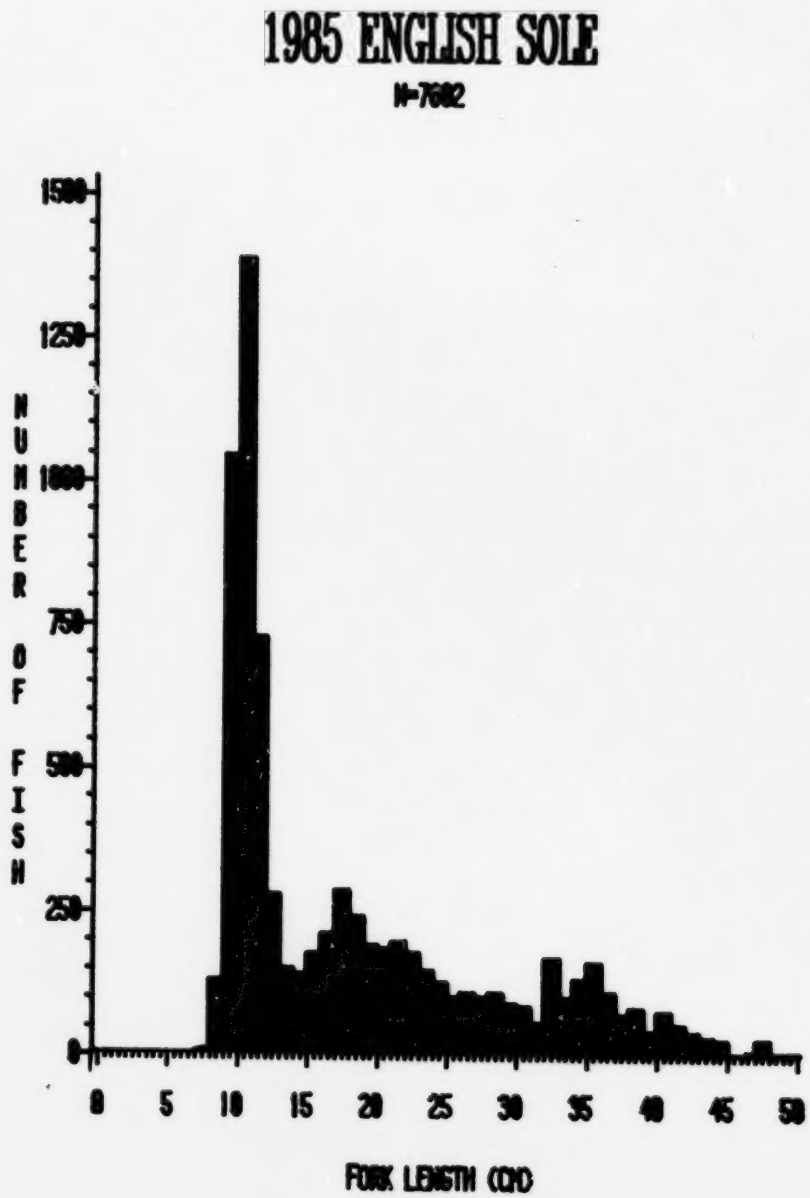


Fig. 5. Total size composition for English sole caught by F/V SUNNFJORD, April 9-26, 1985.

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	1	2
MAJOR AREA	5C	5C
MINOR AREA	2B EAST	2B EAST
DATE	APR 11	APR 12
DEPTH MODE F/(M)	39 /(71)	23 /(42)
DURATION (H)	0.37	0.35
DIRECTION (DEG. TRUE)	70	30

	START	STOP	START	STOP
TIME	16:00	16:22	9:38	9:59
LAT.(DEG,MIN)	52 41.6	52 42	52 44.8	52 45.4
LONG.(DEG,MIN)	130 58.4	130 58	131 00	130 59.5
LC-5990-X	12390	12390.2	12360	12360.1
LC-5990-Z	41429.3	41431.7	41439.1	41442
DEPTH (F)	39	39	23	23

SPECIES CATCH(KG.)		
ARROWTOOTH FLOUNDER	-	-
BUTTER SOLE	-	-
C-O SOLE	-	-
CURLFIN SOLE	-	TRACE
DOVER SOLE	-	-
ENGLISH SOLE	-	-
FLATHEAD SOLE	-	-
PACIFIC HALIBUT	-	-
PACIFIC SANDDAB	-	-
REX SOLE	-	-
ROCK SOLE	-	2
SAND SOLE	-	-
STARRY FLOUNDER	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. MALIGER	-	TRACE
S. PINNIGER	-	-
S. RUBERRIMUS	-	-
EELPOUTS	-	-
GREENLINGS	-	-
PACIFIC HERRING	-	-
LINGCOD	-	-
PACIFIC COD	-	-
PACIFIC TOMCOD	-	-
POACHERS	-	-
SABLEFISH	-	-
SANDLANCE	-	-
SCULPINS	-	-
SHINER PERCH	-	TRACE
SMELT	-	-
WALLEYE POLLOCK	-	-
WOLFEEL	-	-
RATFISH	-	-
SKATES	-	-
SPINY DOGFISH	-	2
INVERTEBRATES	-	25
TOTAL CATCH (KG.)	0	29
REMARKS	UNUSABLE	USABLE

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	3		4	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 12		APR 12	
DEPTH MODE F/(M)	41 /(74)		55 /(100)	
DURATION (H)	0.38		0.23	
DIRECTION (DEG. TRUE)	30		30	
	START	STOP	START	STOP
TIME	11:17	11:40	12:47	13:01
LAT.(DEG,MIN)	52 46.9	52 47.6	52 47.4	52 48.8
LONG.(DEG,MIN)	130 49.5	130 48.8	130 41.6	130 41.4
LC-5990-X	12390.5	12387.9	12419	12417.7
LC-5990-Z	41457.4	41461	41467.9	41469.4
DEPTH (F)	41	41	55	56
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		TRACE	
ENGLISH SOLE	2		13	
FLATHEAD SOLE	-		TRACE	
PACIFIC HALIBUT	1		-	
PACIFIC SANDDAB	12		9	
REX SOLE	-		3	
ROCK SOLE	3		-	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		TRACE	
S. MALIGER	TRACE		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		TRACE	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	18		-	
SPINY DOGFISH	3		-	
INVERTEBRATES	8		-	
TOTAL CATCH (KG.)	47		25	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	5		6	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 12		APR 13	
DEPTH MODE F/(M)	26 /(47)		21 /(38)	
DURATION (H)	0.40		0.25	
DIRECTION (DEG. TRUE)	30		10	
	START	STOP	START	STOP
TIME	14:28	14:52	7:45	8:00
LAT.(DEG,MIN)	52 54.9	52 55.6	52 50.7	52 51.4
LONG.(DEG,MIN)	130 52	130 51.6	131 16.3	131 15.6
LC-5990-X	12325.1	12321.4	12259.7	12259.8
LC-5990-Z	41484.3	41487.5	41445.3	41448
DEPTH (F)	26	25	21	21
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		1	
DOVER SOLE	-		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	2		5	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	36		26	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	TRACE		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	1		10	
PACIFIC COD	4		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	TRACE		-	
SCULPINS	TRACE		-	
SHINER PERCH	-		-	
SMELT	TRACE		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		11	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	9		5	
TOTAL CATCH (KG.)	52		58	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	7		8	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 13		APR 13	
DEPTH MODE F/(M)	31 /(56)		38 /(69)	
DURATION (H)	0.42		0.43	
DIRECTION (DEG. TRUE)	0		105	
	START	STOP	START	STOP
TIME	10:00	10:25	11:15	11:41
LAT.(DEG,MIN)	52 52.5	52 57.2	52 58.1	52 57.8
LONG.(DEG,MIN)	131 16.5	131 16.2	130 40.4	130 40.1
LC-5990-X	12319.8	12316.1	12344.3	12354
LC-5990-Z	41491.8	41494.6	41507.2	41508.4
DEPTH (F)	30	31	37	39
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	1		1	
DOVER SOLE	-		-	
ENGLISH SOLE	TRACE		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	8		2	
PACIFIC SANDDAB	TRACE		TRACE	
REX SOLE	-		-	
ROCK SOLE	3		12	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	TRACE		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	18		68	
SPINY DOGFISH	-		-	
INVERTEBRATES	2		TRACE	
TOTAL CATCH (KG.)	32		83	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	9	10
MAJOR AREA	5C	5C
MINOR AREA	2B EAST	2B EAST
DATE	APR 13	APR 13
DEPTH MODE F/(M)	54 /(98)	44 /(80)
DURATION (H)	0.42	0.43
DIRECTION (DEG. TRUE)	295	295

	START	STOP	START	STOP
TIME	12:16	12:41	13:07	13:33
LAT.(DEG,MIN)	52 58.4	52 58.8	52 58.4	52 58.5
LONG.(DEG,MIN)	130 42.1	130 43.2	130 44.2	130 46
LC-5990-X	12341.5	12334	12333.6	12324.5
LC-5990-Z	41508.4	41508.5	41505.8	41504.1
DEPTH (F)	53	55	42	46

SPECIES CATCH(KG.)		
ARROWTOOTH FLOUNDER	TRACE	TRACE
BUTTER SOLE	-	1
C-O SOLE	-	-
CURLFIN SOLE	-	1
DOVER SOLE	-	TRACE
ENGLISH SOLE	-	1
FLATHEAD SOLE	-	-
PACIFIC HALIBUT	-	2
PACIFIC SANDDAB	1	5
REX SOLE	TRACE	TRACE
ROCK SOLE	TRACE	4
SAND SOLE	-	-
STARRY FLOUNDER	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. MALIGER	-	-
S. PINNIGER	-	-
S. RUBERRIMUS	-	-
EELPOUTS	-	-
GREENLINGS	-	-
PACIFIC HERRING	-	-
LINGCOD	-	-
PACIFIC COD	-	-
PACIFIC TOMCOD	-	TRACE
POACHERS	-	TRACE
SABLEFISH	-	-
SANDLANCE	-	-
SCULPINS	-	-
SHINER PERCH	-	6
SMELT	-	-
WALLEYE POLLOCK	-	-
WOLFEEL	-	-
RATFISH	-	-
SKATES	9	3
SPINY DOGFISH	-	-
INVERTEBRATES	TRACE	7
TOTAL CATCH (KG.)	10	30
REMARKS	USABLE	USABLE

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	11	12
MAJOR AREA	5C	5C
MINOR AREA	2B EAST	2B EAST
DATE	APR 13	APR 13
DEPTH MODE F/(M)	16 /(29)	35 /(64)
DURATION (H)	0.42	0.42
DIRECTION (DEG. TRUE)	205	320

	START	STOP	START	STOP
TIME	14:57	15:22	16:21	16:46
LAT.(DEG,MIN)	53 01.1	53 00.2	53 06	53 06.7
LONG.(DEG,MIN)	130 57	130 57	130 59.2	130 59.2
LC-5990-X	12262.1	12268	12218.8	12211.1
LC-5990-Z	41501.2	41498	41516.1	41519.1
DEPTH (F)	16	16	34	35

SPECIES CATCH(KG.)		
ARROWTOOTH FLOUNDER	-	-
BUTTER SOLE	-	-
C-O SOLE	-	-
CURLFIN SOLE	TRACE	-
DOVER SOLE	-	-
ENGLISH SOLE	TRACE	-
FLATHEAD SOLE	-	-
PACIFIC HALIBUT	-	-
PACIFIC SANDDAB	TRACE	-
REX SOLE	-	-
ROCK SOLE	13	-
SAND SOLE	-	-
STARRY FLOUNDER	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. MALIGER	-	-
S. PINNIGER	-	-
S. RUBERRIMUS	-	-
EELPOUTS	-	-
GREENLINGS	-	-
PACIFIC HERRING	-	-
LINGCOD	-	-
PACIFIC COD	-	-
PACIFIC TOMCOD	-	-
POACHERS	-	-
SABLEFISH	-	-
SANDLANCE	-	-
SCULPINS	TRACE	-
SHINER PERCH	TRACE	-
SMELT	-	-
WALLEYE POLLOCK	-	-
WOLFEEL	-	-
RATFISH	TRACE	-
SKATES	2	-
SPINY DOGFISH	-	2722
INVERTEBRATES	5	-
TOTAL CATCH (KG.)	20	2722
REMARKS	USABLE	UNUSABLE

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	13		14	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 13		APR 14	
DEPTH MODE F/(M)	50 /(91)		23 /(42)	
DURATION (H)	0.28		0.43	
DIRECTION (DEG. TRUE)	115		265	
	START	STOP	START	STOP
TIME	17:51	18:08	6:18	6:44
LAT.(DEG,MIN)	53 06	53 05.4	53 03.2	53 03.4
LONG.(DEG,MIN)	130 54.5	130 53.8	131 04.1	131 05.8
LC-5990-X	12238.2	12243.6	12218.9	12211.7
LC-5990-Z	41521.3	41520.3	41501.2	41499.8
DEPTH (F)	50	49	22	23
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		5	
DOVER SOLE	-		-	
ENGLISH SOLE	3		TRACE	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		24	
PACIFIC SANDDAB	-		1	
REX SOLE	-		-	
ROCK SOLE	5		7	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		1	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		TRACE	
SKATES	-		-	
SPINY DOGFISH	4537		-	
INVERTEBRATES	-		8	
TOTAL CATCH (KG.)	4545		46	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	15		16	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 14		APR 14	
DEPTH MODE F/(M)	17 /(31)		21 /(38)	
DURATION (H)	0.42		0.42	
DIRECTION (DEG. TRUE)	235		250	
	START	STOP	START	STOP
TIME	7:13	7:38	8:42	9:07
LAT.(DEG,MIN)	53 01.3	53 00.6	53 02.1	53 02
LONG.(DEG,MIN)	131 07.4	131 08.1	131 19.9	131 21.4
LC-5990-X	12219.8	12219.7	12167.6	12163.1
LC-5990-Z	41490.6	41468.6	41481.2	41479.2
DEPTH (F)	18	16	21	20
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	1		14	
DOVER SOLE	-		-	
ENGLISH SOLE	TRACE		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		-	
PACIFIC SANDDAB	TRACE		TRACE	
REX SOLE	-		-	
ROCK SOLE	20		57	
SAND SOLE	2		12	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	TRACE		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		TRACE	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		7	
SKATES	1		7	
SPINY DOGFISH	-		-	
INVERTEBRATES	14		9	
TOTAL CATCH (KG.)	38		106	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	17		18	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 14		APR 14	
DEPTH MODE F/(M)	33 /(60)		23 /(42)	
DURATION (H)	0.42		0.40	
DIRECTION (DEG. TRUE)	5		312	
	START	STOP	START	STOP
TIME	11:14	11:39	12:04	12:28
LAT.(DEG,MIN)	53 14.8	53 15.7	53 15.9	53 16.4
LONG.(DEG,MIN)	131 05.2	131 04.7	131 07.4	131 08.6
LC-5990-X	12131.6	12127.3	12115.4	12107.7
LC-5990-Z	41540.6	41544.1	41541.8	41542
DEPTH (F)	32	34	23	23
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	TRACE		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	TRACE		-	
DOVER SOLE	TRACE		-	
ENGLISH SOLE	2		TRACE	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		-	
PACIFIC SANDDAB	5		-	
REX SOLE	TRACE		-	
ROCK SOLE	2		10	
SAND SOLE	TRACE		TRACE	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		18	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		TRACE	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	1		TRACE	
SKATES	3		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	7		TRACE	
TOTAL CATCH (KG.)	20		28	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	19		20	
MAJOR AREA	5C		5D	
MINOR AREA	5 LOWER		2A EAST	
DATE	APR 14		APR 14	
DEPTH MODE F/(M)	50 /(91)		23 /(42)	
DURATION (H)	0.35		0.37	
DIRECTION (DEG. TRUE)	340		290	
	START	STOP	START	STOP
TIME	13:50	14:11	15:43	16:05
LAT.(DEG,MIN)	53 22	53 22.2	53 30.2	53 30.6
LONG.(DEG,MIN)	130 59.8	131 00.5	131 09.9	131 11.1
LC-5990-X	12099.3	12096	12022.8	11993.2
LC-5990-Z	41572	41571.5	41583.6	41586.3
DEPTH (F)	50	49	23	22
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	TRACE		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		2	
DOVER SOLE	TRACE		-	
ENGLISH SOLE	2		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		17	
PACIFIC SANDDAB	2		TRACE	
REX SOLE	1		TRACE	
ROCK SOLE	7		39	
SAND SOLE	-		6	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	TRACE		-	
SCULPINS	-		TRACE	
SHINER PERCH	TRACE		-	
SMELT	-		-	
WALLEYE POLLOCK	TRACE		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	-		36	
SPINY DOGFISH	-		-	
INVERTEBRATES	TRACE		32	
TOTAL CATCH (KG.)	12		132	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	21	22
MAJOR AREA	5D	5D
MINOR AREA	2A EAST	5 UPPER
DATE	APR 14	APR 14
DEPTH MODE F/(M)	) 36 /(65)	60 /(109
DURATION (H)	0.45	0.42
DIRECTION (DEG. TRUE)	5	350

	START	STOP	START	STOP
TIME	16:41	17:08	18:58	19:23
LAT.(DEG,MIN)	53 32.5	53 33.4	53 36	53 37
LONG.(DEG,MIN)	131 10.6	131 10	130 47.5	130 48
LC-5990-X	11980.6	11975.4	12044.1	12033.1
LC-5990-Z	41594.6	41598.3	41636	41639.2
DEPTH (F)	35	37	61	59

SPECIES CATCH(KG.)		
ARROWTOOTH FLOUNDER	TRACE	-
BUTTER SOLE	35	-
C-O SOLE	-	-
CURLFIN SOLE	5	-
DOVER SOLE	-	-
ENGLISH SOLE	73	-
FLATHEAD SOLE	-	-
PACIFIC HALIBUT	46	-
PACIFIC SANDDAB	55	-
REX SOLE	TRACE	-
ROCK SOLE	41	-
SAND SOLE	-	-
STARRY FLOUNDER	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. MALIGER	-	-
S. PINNIGER	-	-
S. RUBERRIMUS	-	-
EELPOUTS	-	-
GREENLINGS	-	-
PACIFIC HERRING	-	-
LINGCOD	-	-
PACIFIC COD	54	-
PACIFIC TOMCOD	-	-
POACHERS	TRACE	-
SABLEFISH	-	-
SANDLANCE	-	-
SCULPINS	-	-
SHINER PERCH	-	-
SMELT	-	-
WALLEYE POLLOCK	-	-
WOLFEEL	-	-
RATFISH	TRACE	-
SKATES	120	-
SPINY DOGFISH	-	-
INVERTEBRATES	50	-
TOTAL CATCH (KG.)	479	0
REMARKS	USABLE	UNUSABLE

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	23		24	
MAJOR AREA	5D		5D	
MINOR AREA	5 UPPER		5 UPPER	
DATE	APR 15		APR 15	
DEPTH MODE F/(M)	47 /(85)		42 /(76)	
DURATION (H)	0.42		0.43	
DIRECTION (DEG. TRUE)	350		180	
	START	STOP	START	STOP
TIME	7:31	7:56	8:30	8:56
LAT.(DEG,MIN)	53 36.3	53 37.4	53 35.5	53 34.6
LONG.(DEG,MIN)	130 48.5	130 48.5	130 49.4	130 50.5
LC-5990-X	12036.5	12029.1	12039.4	12041.5
LC-5990-Z	41636	41639.4	41631.6	41627.3
DEPTH (F)	48	46	41	42
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		TRACE	
BUTTER SOLE	2		-	
C-O SOLE	-		-	
CURLFIN SOLE	4		1	
DOVER SOLE	-		-	
ENGLISH SOLE	20		TRACE	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	8		-	
PACIFIC SANDDAB	-		-	
REX SOLE	TRACE		TRACE	
ROCK SOLE	65		18	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	TRACE		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	TRACE		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	2		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	15		34	
SPINY DOGFISH	-		-	
INVERTEBRATES	5		TRACE	
TOTAL CATCH (KG.)	121		53	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	25		26	
MAJOR AREA	5D		5D	
MINOR AREA	5 UPPER		5 UPPER	
DATE	APR 15		APR 15	
DEPTH MODE F/(M)	49 /(89)		32 /(58)	
DURATION (H)	0.43		0.38	
DIRECTION (DEG. TRUE)	180		310	
	START	STOP	START	STOP
TIME	10:46	11:12	12:23	12:46
LAT.(DEG,MIN)	53 43.4	53 44	53 47.6	53 48.1
LONG.(DEG,MIN)	130 49.8	130 50.9	131 00.6	131 01.7
LC-5990-X	11976.6	11970.1	11900.7	11893.2
LC-5990-Z	41658.3	41655	41657.6	41657.5
DEPTH (F)	50	48	32	32
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		TRACE	
DOVER SOLE	-		-	
ENGLISH SOLE	10		1	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	5		-	
PACIFIC SANDDAB	-		-	
REX SOLE	2		-	
ROCK SOLE	16		10	
SAND SOLE	-		TRACE	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	1		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		2	
SKATES	20		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	-		23	
TOTAL CATCH (KG.)	54		36	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	27		28	
MAJOR AREA	5D		5D	
MINOR AREA	5 UPPER		4	
DATE	APR 15		APR 15	
DEPTH MODE F/(M)	23 /(42)		40 /(73)	
DURATION (H)	0.42		0.42	
DIRECTION (DEG. TRUE)	310		340	
	START	STOP	START	STOP
TIME	13:32	13:57	15:31	15:56
LAT.(DEG,MIN)	53 48.6	53 48.5	53 56.4	53 57.2
LONG.(DEG,MIN)	131 09.9	131 11.4	131 05.5	131 06
LC-5990-X	11858.2	11853.9	11812.7	11805
LC-5990-Z	41648.4	41646.1	41679.5	41681.2
DEPTH (F)	22	23	40	39
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		TRACE	
BUTTER SOLE	-		-	
C-O SOLE	-		TRACE	
CURLFIN SOLE	-		-	
DOVER SOLE	-		2	
ENGLISH SOLE	TRACE		21	
FLATHEAD SOLE	-		TRACE	
PACIFIC HALIBUT	9		5	
PACIFIC SANDDAB	TRACE		TRACE	
REX SOLE	22		TRACE	
ROCK SOLE	-		29	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		42	
S. HELVOMACULATUS	-		-	
S. MALIGER	168		29	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		7	
EELPOUTS	-		-	
GREENLINGS	-		TRACE	
PACIFIC HERRING	-		TRACE	
LINGCOD	-		32	
PACIFIC COD	-		13	
PACIFIC TOMCOD	-		-	
POACHERS	-		TRACE	
SABLEFISH	-		TRACE	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		TRACE	
SMELT	-		TRACE	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		7	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	73		136	
TOTAL CATCH (KG.)	272		323	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	29		30	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 15		APR 16	
DEPTH MODE F/(M)	19 /(34)		53 /(96)	
DURATION (H)	0.42		0.37	
DIRECTION (DEG. TRUE)	350		20	
	START	STOP	START	STOP
TIME	16:49	17:14	7:21	7:43
LAT.(DEG,MIN)	53 59.4	54 00.1	54 06.2	54 06.7
LONG.(DEG,MIN)	131 08.5	131 07.1	131 04.4	131 05.3
LC-5990-X	11777.9	11774.6	11737.6	11730.4
LC-5990-Z	41685.2	41688.1	41711.8	41712.2
DEPTH (F)	18	19	53	53
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		77	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		3	
ENGLISH SOLE	TRACE		65	
FLATHEAD SOLE	-		7	
PACIFIC HALIBUT	TRACE		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		15	
ROCK SOLE	11		TRACE	
SAND SOLE	TRACE		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	TRACE		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	1		-	
PACIFIC COD	-		43	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		11	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	TRACE		-	
SMELT	-		1	
WALLEYE POLLOCK	-		45	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	5		50	
SPINY DOGFISH	-		2356	
INVERTEBRATES	-		10	
TOTAL CATCH (KG.)	17		2683	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	31		32	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 16		APR 16	
DEPTH MODE F/(M)	21 /(38)		15 /(27)	
DURATION (H)	0.40		0.43	
DIRECTION (DEG. TRUE)	335		30	
	START	STOP	START	STOP
TIME	9:51	10:15	11:07	11:33
LAT.(DEG,MIN)	54 06.4	54 07.2	54 12.1	54 13
LONG.(DEG,MIN)	131 08.3	131 09.1	131 12	131 12.8
LC-5990-X	11722.1	11712.8	11661.7	11662.8
LC-5990-Z	41706.9	41708.3	41719.8	41720.3
DEPTH (F)	20	21	14	15
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	27		5	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	6		TRACE	
SAND SOLE	-		-	
STARRY FLOUNDER	-		62	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	TRACE		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	TRACE		-	
SMELT	TRACE		-	
WALLEYE POLLOCK	TRACE		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	18		25	
SPINY DOGFISH	-		-	
INVERTEBRATES	14		2	
TOTAL CATCH (KG.)	65		94	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	33	34
MAJOR AREA	5D	5D
MINOR AREA	4	4
DATE	APR 16	APR 16
DEPTH MODE F/(M)	30 /(54)	53 /(96)
DURATION (H)	0.42	0.47
DIRECTION (DEG. TRUE)	100	325

	START	STOP	START	STOP
TIME	12:14	12:39	13:08	13:36
LAT.(DEG,MIN)	54 17.6	54 17.6	54 19	54 20.1
LONG.(DEG,MIN)	131 14.6	131 16.5	131 17.2	131 16.4
LC-5990-X	11608.1	11601.1	11587.5	11581
LC-5990-Z	41732.5	41730	41733.4	41737.7
DEPTH (F)	29	30	53	52

SPECIES CATCH(KG.)		
ARROWTOOTH FLOUNDER	-	338
BUTTER SOLE	1	-
C-O SOLE	-	-
CURLFIN SOLE	-	-
DOVER SOLE	-	-
ENGLISH SOLE	TRACE	TRACE
FLATHEAD SOLE	-	TRACE
PACIFIC HALIBUT	-	10
PACIFIC SANDDAB	-	-
REX SOLE	-	1
ROCK SOLE	TRACE	-
SAND SOLE	TRACE	-
STARRY FLOUNDER	-	-
S. FLAVIDUS	-	-
S. HELVOMACULATUS	-	-
S. MALIGER	-	-
S. PINNIGER	-	-
S. RUBERRIMUS	-	-
EELPOUTS	-	-
GREENLINGS	-	-
PACIFIC HERRING	TRACE	-
LINGCOD	-	-
PACIFIC COD	-	179
PACIFIC TOMCOD	-	-
POACHERS	-	-
SABLEFISH	-	-
SANDLANCE	-	-
SCULPINS	-	-
SHINER PERCH	-	-
SMELT	-	-
WALLEYE POLLOCK	-	-
WOLFEEL	-	-
RATFISH	-	TRACE
SKATES	41	-
SPINY DOGFISH	TRACE	10
INVERTEBRATES	18	-
TOTAL CATCH (KG.)	60	538
REMARKS	USABLE	USABLE

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	35		36	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 16		MAY 17	
DEPTH MODE F/(M)	40 /(73)		41 /(74)	
DURATION (H)	0.40		0.42	
DIRECTION (DEG. TRUE)	165		325	
	START	STOP	START	STOP
TIME	16:01	16:25	12:13	12:38
LAT.(DEG,MIN)	54 20.4	54 19.8	54 17.8	54 18.6
LONG.(DEG,MIN)	131 14.9	131 13.8	131 06.9	131 07.9
LC-5990-X	11583	11584.1	11632.5	11622.7
LC-5990-Z	41740.7	41740.8	41744.5	41744.9
DEPTH (F)	41	39	41	40
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	6		40	
BUTTER SOLE	-		TRACE	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	4		2	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	20		39	
PACIFIC SANDDAB	-		-	
REX SOLE	TRACE		-	
ROCK SOLE	-		-	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		TRACE	
PACIFIC COD	TRACE		97	
PACIFIC TOMCOD	-		TRACE	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	TRACE		-	
WOLFEEL	-		-	
RATFISH	-		TRACE	
SKATES	-		150	
SPINY DOGFISH	TRACE		TRACE	
INVERTEBRATES	136		5	
TOTAL CATCH (KG.)	166		333	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	37		38	
MAJOR AREA	5D		5D	
MINOR AREA	4		5 UPPER	
DATE	APR 17		APR 17	
DEPTH MODE F/(M)	30 /(54)		39 /(71)	
DURATION (H)	0.42		0.40	
DIRECTION (DEG. TRUE)	135		235	
	START	STOP	START	STOP
TIME	13:21	13:46	17:07	17:31
LAT.(DEG,MIN)	54 17.7	54 17.1	53 59.2	53 58.6
LONG.(DEG,MIN)	131 09.3	131 07.9	130 42.8	130 43.9
LC-5990-X	11625.6	11635.3	11878.9	11881
LC-5990-Z	41740.2	41740.5	41719.9	41716.9
DEPTH (F)	31	30	39	39
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	2		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		3	
ENGLISH SOLE	9		67	
FLATHEAD SOLE	-		63	
PACIFIC HALIBUT	9		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		5	
ROCK SOLE	-		8	
SAND SOLE	-		-	
STARRY FLOUNDER	-		2	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		TRACE	
GREENLINGS	-		-	
PACIFIC HERRING	TRACE		TRACE	
LINGCOD	-		-	
PACIFIC COD	14		2	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		3	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		4	
SMELT	-		-	
WALLEYE POLLOCK	TRACE		1	
WOLFEEL	-		-	
RATFISH	-		5	
SKATES	14		2	
SPINY DOGFISH	-		-	
INVERTEBRATES	-		10	
TOTAL CATCH (KG.)	48		175	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	39		40	
MAJOR AREA	5D		5D	
MINOR AREA	5 UPPER		5 UPPER	
DATE	APR 17		APR 17	
DEPTH MODE F/(M)	22 /(40)		15 /(27)	
DURATION (H)	0.42		0.43	
DIRECTION (DEG. TRUE)	360		225	
	START	STOP	START	STOP
TIME	17:56	18:21	18:45	19:11
LAT.(DEG,MIN)	53 58	53 58.6	53 58.7	53 57.8
LONG.(DEG,MIN)	130 43.9	130 42.6	130 42.3	130 42.8
LC-5990-X	11887.2	11886.3	11887.6	11892.4
LC-5990-Z	41716.1	41719	41719.5	41715.9
DEPTH (F)	23	19	14	15
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	TRACE		-	
DOVER SOLE	-		-	
ENGLISH SOLE	4		3	
FLATHEAD SOLE	TRACE		-	
PACIFIC HALIBUT	-		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	36		45	
SAND SOLE	-		-	
STARRY FLOUNDER	10		16	
S. FLAVIDUS	TRACE		-	
S. HELVOMACULATUS	-		TRACE	
S. MALIGER	10		9	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		TRACE	
PACIFIC HERRING	-		-	
LINGCOD	-		17	
PACIFIC COD	TRACE		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	TRACE		TRACE	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	8		-	
RATFISH	258		36	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	100		-	
TOTAL CATCH (KG.)	426		126	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	41		42	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 18		APR 18	
DEPTH MODE F/(M)	16 /(29)		21 /(38)	
DURATION (H)	0.42		0.43	
DIRECTION (DEG. TRUE)	95		355	
	START	STOP	START	STOP
TIME	8:29	8:54	11:28	11:54
LAT.(DEG,MIN)	54 02.7	54 02.5	53 48.2	53 49.4
LONG.(DEG,MIN)	131 22.8	131 20.1	131 18.8	131 19
LC-5990-X	11701.8	11710	11829.9	11820.2
LC-5990-Z	41676.7	41678.2	41635.9	41639.5
DEPTH (F)	15	16	22	20
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	TRACE		TRACE	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		4	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	TRACE		7	
SAND SOLE	-		1	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	TRACE		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	TRACE		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		TRACE	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	3		-	
SKATES	2		-	
SPINY DOGFISH	TRACE		-	
INVERTEBRATES	95		19	
TOTAL CATCH (KG.)	100		31	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	67		68	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 23		APR 24	
DEPTH MODE F/(M)	29 /(53)		21 /(38)	
DURATION (H)	0.42		0.42	
DIRECTION (DEG. TRUE)	345		220	
	START	STOP	START	STOP
TIME	17:08	17:33	00:32	00:57
LAT.(DEG,MIN)	52 56.7	52 57.5	53 02.7	53 02.3
LONG.(DEG,MIN)	131 28.8	131 28.6	131 12.6	131 14
LC-5990-X	12173.1	12168	12190.7	12188
LC-5990-Z	41454.7	41457.6	41490.3	41487.6
DEPTH (F)	28	29	21	20
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	TRACE		2	
CURLFIN SOLE	3		3	
DOVER SOLE	-		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	28		118	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		TRACE	
S. MALIGER	-		-	
S. PINNIGER	-		TRACE	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	TRACE		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	TRACE		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	454		-	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	60		23	
TOTAL CATCH (KG.)	545		146	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	69		70	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 24		APR 24	
DEPTH MODE F/(M)	19 /(34)		21 /(38)	
DURATION (H)	0.42		0.42	
DIRECTION (DEG. TRUE)	55		230	
	START	STOP	START	STOP
TIME	8:15	8:40	9:02	9:27
LAT.(DEG,MIN)	53 02.6	53 02.8	53 02.6	53 02.3
LONG.(DEG,MIN)	131 13.7	131 12.3	131 12.7	131 13.8
LC-5990-X	12190.7	12191.2	12191.1	12189
LC-5990-Z	41487.2	41491	41489.5	41487.7
DEPTH (F)	18	19	20	22
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		TRACE	
DOVER SOLE	-		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	-		90	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		TRACE	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	-		5	
TOTAL CATCH (KG.)	0		95	
REMARKS	UNUSABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	43		44	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 18		APR 18	
DEPTH MODE F/(M)	22 /(40)		16 /(29)	
DURATION (H)	0.47		0.45	
DIRECTION (DEG. TRUE)	180		190	
	START	STOP	START	STOP
TIME	12:53	13:21	14:33	15:00
LAT.(DEG,MIN)	53 43.7	53 42.8	53 37.1	53 35.8
LONG.(DEG,MIN)	131 19.4	131 18.3	131 15.4	131 14.1
LC-5990-X	11863.7	11873.8	11961	11940.4
LC-5990-Z	41620.5	41619.1	41598.1	41596.1
DEPTH (F)	20	23	15	16
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	10		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	11		5	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	56		TRACE	
SAND SOLE	-		2	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	1		TRACE	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	2		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		TRACE	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	1		-	
SHINER PERCH	1		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	65		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	150		23	
TOTAL CATCH (KG.)	297		30	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	45		46	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 18		APR 18	
DEPTH MODE F/(M)	15 /(27)		15 /(27)	
DURATION (H)	0.45		0.45	
DIRECTION (DEG. TRUE)	145		325	
	START	STOP	START	STOP
TIME	15:51	16:18	16:55	17:22
LAT.(DEG,MIN)	53 31.2	53 30.5	53 31.4	53 31.9
LONG.(DEG,MIN)	131 12.7	131 10.5	131 14.7	131 15.9
LC-5990-X	11982.6	11996.3	11973.8	11965.2
LC-5990-Z	41583.6	41583.7	41581.8	41582.2
DEPTH (F)	19	20	16	14
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		TRACE	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	-		TRACE	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		9	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	5		11	
SAND SOLE	2		5	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	TRACE		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	TRACE		-	
SKATES	5		5	
SPINY DOGFISH	TRACE		TRACE	
INVERTEBRATES	4		5	
TOTAL CATCH (KG.)	16		35	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	47		48	
MAJOR AREA	5D		5C	
MINOR AREA	5 UPPER		2B EAST	
DATE	APR 18		APR 19	
DEPTH MODE F/(M)	35 /(64)		23 /(42)	
DURATION (H)	0.43		0.43	
DIRECTION (DEG. TRUE)	335		190	
	START	STOP	START	STOP
TIME	18:18	18:44	9:14	9:40
LAT.(DEG,MIN)	53 25.3	53 36.1	53 04.4	53 03.5
LONG.(DEG,MIN)	131 06.9	131 07	131 09.9	131 10.8
LC-5990-X	11972.8	11966.2	11188.2	11191.3
LC-5990-Z	41604.2	41606.8	41499.1	43494.9
DEPTH (F)	34	36	23	22
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	TRACE		-	
CURLFIN SOLE	5		TRACE	
DOVER SOLE	TRACE		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	4		-	
PACIFIC HALIBUT	4		-	
PACIFIC SANDDAB	-		TRACE	
REX SOLE	-		-	
ROCK SOLE	135		12	
SAND SOLE	-		1	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		TRACE	
LINGCOD	-		-	
PACIFIC COD	TRACE		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	2		5	
SKATES	17		-	
SPINY DOGFISH	-		5	
INVERTEBRATES	55		5	
TOTAL CATCH (KG.)	222		28	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	49		50	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 19		APR 19	
DEPTH MODE F/(M)	19 /(34)		16 /(29)	
DURATION (H)	0.38		0.42	
DIRECTION (DEG. TRUE)	270		275	
	START	STOP	START	STOP
TIME	10:04	10:27	11:40	12:05
LAT.(DEG,MIN)	53 02.7	53 02.3	53 02.8	53 03.8
LONG.(DEG,MIN)	131 12.5	131 13.9	131 48.5	131 48.8
LC-5990-X	11190.8	11188.3	11243.6	11235.2
LC-5990-Z	41490.3	41487.4	41506	41509.1
DEPTH (F)	19	18	16	16
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	TRACE		2	
DOVER SOLE	-		-	
ENGLISH SOLE	-		5	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	41		-	
PACIFIC SANDDAB	-		TRACE	
REX SOLE	-		-	
ROCK SOLE	14		2	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		TRACE	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	TRACE		TRACE	
SCULPINS	-		-	
SHINER PERCH	-		TRACE	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	5		TRACE	
TOTAL CATCH (KG.)	60		9	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	51		52	
MAJOR AREA	5C		5C	
MINOR AREA	5 LOWER		5 LOWER	
DATE	APR 19		APR 19	
DEPTH MODE F/(M)	51 /(93)		36 /(65)	
DURATION (H)	0.47		0.45	
DIRECTION (DEG. TRUE)	320		5	
	START	STOP	START	STOP
TIME	12:40	13:08	13:48	14:15
LAT.(DEG,MIN)	53 05.6	53 06.5	53 05.4	53 06.5
LONG.(DEG,MIN)	130 53.9	130 55.1	130 59.9	130 59.6
LC-5990-X	11242	11230.9	11219.8	11213.5
LC-5990-Z	41521.1	41522.8	41513.7	41517.5
DEPTH (F)	51	51	35	36
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	TRACE		TRACE	
ENGLISH SOLE	82		2	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	17		10	
PACIFIC SANDDAB	36		23	
REX SOLE	TRACE		TRACE	
ROCK SOLE	TRACE		5	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	5		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	5		5	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		2	
RATFISH	-		-	
SKATES	-		1	
SPINY DOGFISH	TRACE		-	
INVERTEBRATES	7		3	
TOTAL CATCH (KG.)	152		51	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	53		54	
MAJOR AREA	5C		5D	
MINOR AREA	2B EAST		2A EAST	
DATE	APR 19		APR 19	
DEPTH MODE F/(M)	18 /(32)		21 /(38)	
DURATION (H)	0.13		0.42	
DIRECTION (DEG. TRUE)	130		165	
	START	STOP	START	STOP
TIME	15:27	15:35	18:04	18:29
LAT.(DEG,MIN)	53 12.7	53 12	53 20.2	53 19.2
LONG.(DEG,MIN)	131 10.6	131 10	131 34.1	131 33.2
LC-5990-X	11126.9	11129.9	11990.3	11999.2
LC-5990-Z	41526.8	41520.2	41527.3	41525.2
DEPTH (F)	18	18	22	20
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	-		10	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		7	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	-		50	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		TRACE	
LINGCOD	-		-	
PACIFIC COD	-		3	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	-		-	
SPINY DOGFISH	-		5	
INVERTEBRATES	-		15	
TOTAL CATCH (KG.)	0		90	
REMARKS	UNUSABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	55		56	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 21		APR 22	
DEPTH MODE F/(M)	36 /(65)		18 /(32)	
DURATION (H)	0.40		0.40	
DIRECTION (DEG. TRUE)	220		5	
	START	STOP	START	STOP
TIME	16:33	16:57	6:21	6:45
LAT.(DEG,MIN)	53 59.1	53 58.5	54 09.9	54 11.1
LONG.(DEG,MIN)	130 42.7	130 43.6	131 08.2	131 08.2
LC-5990-X	11882.5	11883	11694	11683.9
LC-5990-Z	41720.3	41717.1	41718.1	41722
DEPTH (F)	37	35	18	17
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	TRACE		-	
ENGLISH SOLE	69		-	
FLATHEAD SOLE	64		-	
PACIFIC HALIBUT	9		-	
PACIFIC SANDDAB	-		-	
REX SOLE	2		-	
ROCK SOLE	36		3	
SAND SOLE	-		-	
STARRY FLOUNDER	7		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	TRACE		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	TRACE		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	4		-	
LINGCOD	TRACE		-	
PACIFIC COD	TRACE		-	
PACIFIC TOMCOD	5		-	
POACHERS	-		-	
SABLEFISH	25		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	7		-	
SMELT	-		-	
WALLEYE POLLOCK	TRACE		-	
WOLFEEL	-		-	
RATFISH	14		-	
SKATES	-		4	
SPINY DOGFISH	-		-	
INVERTEBRATES	5		-	
TOTAL CATCH (KG.)	247		7	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	57		58	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 22		APR 22	
DEPTH MODE F/(M)	40 /(73)		14 /(25)	
DURATION (H)	0.35		0.42	
DIRECTION (DEG. TRUE)	355		110	
	START	STOP	START	STOP
TIME	7:09	7:30	9:31	9:56
LAT.(DEG,MIN)	54 12.4	54 13.4	54 14.9	54 13.8
LONG.(DEG,MIN)	131 05.7	131 05.3	131 22.9	131 22.4
LC-5990-X	11681.8	11675.6	11602.8	11613.1
LC-5990-Z	41729.4	41732.8	41713.4	41710.7
DEPTH (F)	41	40	13	14
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	80		-	
BUTTER SOLE	TRACE		TRACE	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	18		-	
ENGLISH SOLE	266		-	
FLATHEAD SOLE	TRACE		-	
PACIFIC HALIBUT	92		2	
PACIFIC SANDDAB	-		-	
REX SOLE	92		-	
ROCK SOLE	-		2	
SAND SOLE	-		-	
STARRY FLOUNDER	9		1	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	15		-	
PACIFIC COD	64		2	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	TRACE		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	TRACE		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	272		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	-		-	
TOTAL CATCH (KG.)	908		7	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	59		60	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 22		APR 22	
DEPTH MODE F/(M)	17 /(31)		27 /(49)	
DURATION (H)	0.43		0.42	
DIRECTION (DEG. TRUE)	135		165	
	START	STOP	START	STOP
TIME	10:54	11:20	13:05	13:30
LAT.(DEG,MIN)	54 08.4	54 07.6	53 57.2	53 56.5
LONG.(DEG,MIN)	131 14.1	131 12.7	131 06.7	131 06.5
LC-5990-X	11686	11696.1	11802.5	11808.6
LC-5990-Z	41705.4	41704.2	41680.2	41678.3
DEPTH (F)	16	17	26	28
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		TRACE	
DOVER SOLE	-		-	
ENGLISH SOLE	-		1	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	38		7	
PACIFIC SANDDAB	-		TRACE	
REX SOLE	-		-	
ROCK SOLE	8		85	
SAND SOLE	TRACE		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	1		-	
PACIFIC HERRING	-		-	
LINGCOD	1		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	TRACE		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	57		9	
TOTAL CATCH (KG.)	105		102	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	61		62	
MAJOR AREA	5D		5D	
MINOR AREA	4		4	
DATE	APR 22		APR 22	
DEPTH MODE F/(M)	21 /(38)		28 /(51)	
DURATION (H)	0.42		0.38	
DIRECTION (DEG. TRUE)	330		165	
	START	STOP	START	STOP
TIME	14:12	14:37	15:49	16:12
LAT.(DEG,MIN)	53 59.6	54 00.4	53 55.2	53 54.7
LONG.(DEG,MIN)	131 09.6	131 10.7	131 05.5	131 04.9
LC-5990-X	11771.7	11761.9	11822.5	11828.5
LC-5990-Z	41684.2	41684.8	41675.6	41674.5
DEPTH (F)	21	20	29	27
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		2	
DOVER SOLE	-		-	
ENGLISH SOLE	-		1	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	TRACE		10	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	5		28	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		TRACE	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		-	
SKATES	1		1	
SPINY DOGFISH	-		-	
INVERTEBRATES	2		2	
TOTAL CATCH (KG.)	8		44	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	63		64	
MAJOR AREA	5D		5C	
MINOR AREA	5 UPPER		5 LOWER	
DATE	APR 23		APR 23	
DEPTH MODE F/(M)	26 /(47)		25 /(45)	
DURATION (H)	0.42		0.42	
DIRECTION (DEG. TRUE)	265		10	
	START	STOP	START	STOP
TIME	8:05	8:30	9:58	10:23
LAT.(DEG,MIN)	53 36.8	53 36.4	53 26	53 26.9
LONG.(DEG,MIN)	130 59.6	131 01.2	131 07.8	131 07.4
LC-5990-X	11989.1	11985.5	12039.6	12034.3
LC-5990-Z	41622.5	41619.3	41575.9	41579.5
DEPTH (F)	25	26	24	26
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		-	
DOVER SOLE	-		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	10		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	16		11	
SAND SOLE	-		-	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	3		-	
S. PINNIGER	TRACE		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	11		-	
PACIFIC HERRING	-		-	
LINGCOD	TRACE		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	-		TRACE	
SKATES	-		11	
SPINY DOGFISH	2		-	
INVERTEBRATES	34		5	
TOTAL CATCH (KG.)	76		27	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	65		66	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 23		APR 23	
DEPTH MODE F/(M)	21 /(38)		16 /(29)	
DURATION (H)	0.25		0.42	
DIRECTION (DEG. TRUE)	20		350	
	START	STOP	START	STOP
TIME	12:44	12:59	14:39	15:04
LAT.(DEG,MIN)	53 12.3	53 13	53 03.4	53 04.4
LONG.(DEG,MIN)	131 24.4	131 24.2	131 30.2	131 30.2
LC-5990-X	12079.2	12075.1	12122.2	12120.8
LC-5990-Z	41511.4	41513.8	41475.7	41476.2
DEPTH (F)	21	20	14	18
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	-		-	
CURLFIN SOLE	-		TRACE	
DOVER SOLE	-		-	
ENGLISH SOLE	-		-	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	17		-	
PACIFIC SANDDAB	-		-	
REX SOLE	-		-	
ROCK SOLE	3		25	
SAND SOLE	TRACE		TRACE	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	-		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	TRACE		-	
LINGCOD	-		-	
PACIFIC COD	15		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	TRACE		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	5		11	
SKATES	-		-	
SPINY DOGFISH	-		-	
INVERTEBRATES	23		2	
TOTAL CATCH (KG.)	63		38	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	71		72	
MAJOR AREA	5C		5C	
MINOR AREA	2B EAST		2B EAST	
DATE	APR 24		APR 24	
DEPTH MODE F/(M)	25 /(45)		22 /(40)	
DURATION (H)	0.42		0.42	
DIRECTION (DEG. TRUE)	200		180	
	START	STOP	START	STOP
TIME	10:43	11:08	13:27	13:52
LAT.(DEG,MIN)	52 55	52 56	53 14	53 13.2
LONG.(DEG,MIN)	131 15.7	131 14.8	131 10	131 09.4
LC-5990-X	12232	12222.2	12122	12128.1
LC-5990-Z	41383.1	41386.3	41531.4	41530
DEPTH (F)	24	26	22	22
SPECIES CATCH(KG.)				
ARROWTOOTH FLOUNDER	-		-	
BUTTER SOLE	-		-	
C-O SOLE	TRACE		-	
CURLFIN SOLE	2		2	
DOVER SOLE	-		-	
ENGLISH SOLE	-		TRACE	
FLATHEAD SOLE	-		-	
PACIFIC HALIBUT	-		-	
PACIFIC SANDDAB	-		TRACE	
REX SOLE	-		-	
ROCK SOLE	56		13	
SAND SOLE	TRACE		3	
STARRY FLOUNDER	-		-	
S. FLAVIDUS	-		-	
S. HELVOMACULATUS	-		-	
S. MALIGER	TRACE		-	
S. PINNIGER	-		-	
S. RUBERRIMUS	-		-	
EELPOUTS	-		-	
GREENLINGS	-		-	
PACIFIC HERRING	-		-	
LINGCOD	-		-	
PACIFIC COD	-		-	
PACIFIC TOMCOD	-		-	
POACHERS	-		-	
SABLEFISH	-		-	
SANDLANCE	-		-	
SCULPINS	-		-	
SHINER PERCH	-		-	
SMELT	-		-	
WALLEYE POLLOCK	-		-	
WOLFEEL	-		-	
RATFISH	136		-	
SKATES	-		5	
SPINY DOGFISH	-		-	
INVERTEBRATES	2		9	
TOTAL CATCH (KG.)	196		32	
REMARKS	USABLE		USABLE	

APPENDIX TABLE 1. BRIDGE LOG F/V SUNNFJORD APRIL 9-26, 1985.

HAUL NO.	73	74
MAJOR AREA	5C	5C
MINOR AREA	2B EAST	2B EAST
DATE	APR 24	APR 24
DEPTH MODE F/(M)	35 /(64)	36 /(65)
DURATION (H)	0.05	0.42
DIRECTION (DEG. TRUE)	20	150

	START	STOP	START	STOP
TIME	16:12	16:15	17:54	18:19
LAT.(DEG,MIN)	53 02.4	53 02.4	53 00.2	52 59.3
LONG.(DEG,MIN)	130 54.2	130 54.2	130 52.9	130 51.7
LC-5990-X	12264.4	12264.4	12284.3	12296.3
LC-5990-Z	41509.2	41509.2	41502.6	41500.6
DEPTH (F)	35	35	35	36

SPECIES CATCH(KG.)		
ARROWTOOTH FLOUNDER	-	-
BUTTER SOLE	-	-
C-O SOLE	-	-
CURLFIN SOLE	-	1
DOVER SOLE	-	TRACE
ENGLISH SOLE	-	31
FLATHEAD SOLE	-	-
PACIFIC HALIBUT	-	3
PACIFIC SANDDAB	-	2
REX SOLE	-	TRACE
ROCK SOLE	-	3
SAND SOLE	-	-
STARRY FLOUNDER	-	-
S. FLAVIDUS	-	TRACE
S. HELVOMACULATUS	-	-
S. MALIGER	-	-
S. PINNIGER	-	-
S. RUBERRIMUS	-	-
EELPOUTS	-	-
GREENLINGS	-	-
PACIFIC HERRING	-	-
LINGCOD	-	7
PACIFIC COD	-	TRACE
PACIFIC TOMCOD	-	-
POACHERS	-	-
SABLEFISH	-	-
SANDLANCE	-	-
SCULPINS	-	-
SHINER PERCH	-	5
SMELT	-	-
WALLEYE POLLOCK	-	TRACE
WOLFEEL	-	-
RATFISH	-	-
SKATES	-	9
SPINY DOGFISH	-	2
INVERTEBRATES	-	TRACE
TOTAL CATCH (KG.)	0	63
REMARKS	UNUSABLE	USABLE

Appendix table 2. Common and scientific names of species caught F/V SUNNFJORD, Hecate survey, May 11-24, 1985.

Common name	Scientific name
Flatfish	
Butter sole	Isopsetta isolepis
C-O sole	Pleuronichthys coenosus
Curlfin sole	Pleuronichthys decurrens
Dover sole	Microstomus pacificus
English sole	Parophrys vetulus
Flathead sole	Hippoglossoides elassodon
Pacific halibut	Hippoglossus stenolepis
Pacific sanddab	Citharichthys sordidus
Rex sole	Glyptocephalus zachirus
Rock sole	Lepidopsetta bilineata
Sand sole	Psettichthys melanostictus
Starry flounder	Platichthys stellatus
Turbot	Atheresthes stomias
Rockfish	
Canary rockfish	Sebastes pinniger
Quillback rockfish	Sebastes maliger
Rosethorn rockfish	Sebastes helvomaculatus
Yelloweye rockfish	Sebastes ruberrimus
Yellowtail rockfish	Sebastes flavidus
Roundfish	
Buffalo Sculpin	Enophrys bison
Kelp greenling	Hexagrammos decagrammus
Lingcod	Ophiodon elongatus
Pacific cod	Gadus macrocephalus
Pacific herring	Clupea harengus pallasi
Pacific sandlance	Ammodytes hexapterus
Pacific tomcod	Microgadus proximus
Sablefish	Anoplopoma fimbria
Shiner perch	Cymatogaster aggregata
Surf smelt	Hypomesus pretiosus pretiosus
Sturgeon poacher	Agonus acipenserinus
Walleye pollack	Theragra chalcogramma
Wolfeel	Anarrhichthys ocellatus
Selachii	
Big skate	Raja binoculata
Ratfish	Hydrolagus colliei
Spiny dogfish	Squalus acanthias
Invertebrates	
Anemone	Actinaria
Octopus	Octopoda
Opal squid	Loligo opalescens
Sea pens	Pennatulacea
Starfish	Asteroidea

Appendix table 3. Rock sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	2				3				5				6			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
12	-	-	1	1	-	-	-	-	-	-	3	3	-	-	-	-
13	-	-	0	0	-	-	-	-	-	-	1	1	-	-	-	-
14	-	-	0	0	-	-	1	1	-	-	1	1	-	-	-	-
15	-	-	0	0	-	-	0	0	-	-	0	0	-	-	-	-
16	-	-	0	0	-	-	0	0	-	-	0	0	-	-	-	-
17	-	-	0	0	-	-	0	0	-	-	0	0	-	-	-	-
18	-	-	0	0	-	-	1	1	-	-	0	0	-	-	-	-
19	-	-	0	0	-	-	2	2	-	-	0	0	-	-	-	-
20	-	-	0	0	-	-	1	1	-	-	1	1	-	-	-	-
21	-	-	0	0	-	-	2	2	-	-	0	0	-	-	-	-
22	-	-	0	0	-	-	2	2	-	-	1	1	-	-	-	-
23	-	-	0	0	-	-	0	0	-	-	1	1	-	-	-	-
24	-	-	0	0	-	-	2	2	-	-	0	0	-	-	-	-
25	-	-	0	0	-	-	0	0	-	-	0	0	-	-	-	-
26	-	-	0	0	-	-	0	0	-	-	0	0	-	-	-	-
27	-	-	0	0	-	-	1	1	-	-	0	0	-	-	-	-
28	-	-	0	0	-	-	1	1	-	-	0	0	-	-	-	-
29	-	-	0	0	-	-	0	0	-	-	0	0	-	-	1	1
30	-	-	1	1	-	-	0	0	-	-	1	1	-	-	2	2
31	-	-	0	0	-	-	1	1	-	-	0	0	-	-	2	2
32	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
33	-	-	1	1	-	-	0	0	-	-	0	0	-	-	2	2
34	-	-	0	0	-	-	0	0	-	-	0	0	-	-	4	4
35	-	-	0	0	-	-	0	0	-	-	0	0	-	-	3	3
36	-	-	1	1	-	-	1	1	-	-	2	2	-	-	1	1
37	-	-	1	1	-	-	0	0	-	-	1	1	-	-	1	1
38	-	-	-	-	-	-	1	1	-	-	2	2	-	-	2	2
39	-	-	-	-	-	-	-	-	-	-	0	0	-	-	1	1
40	-	-	-	-	-	-	-	-	-	-	0	0	-	-	3	3
41	-	-	-	-	-	-	-	-	-	-	1	1	-	-	3	3
42	-	-	-	-	-	-	-	-	-	-	2	2	-	-	1	1
43	-	-	-	-	-	-	-	-	-	-	5	5	-	-	1	1
44	-	-	-	-	-	-	-	-	-	-	3	3	-	-	3	3
45	-	-	-	-	-	-	-	-	-	-	1	1	-	-	2	2
46	-	-	-	-	-	-	-	-	-	-	1	1	-	-	4	4
47	-	-	-	-	-	-	-	-	-	-	5	5	-	-	1	1
48	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-
TOTAL	0	0	5	5	0	0	16	16	0	0	41	41	0	0	37	37

Appendix table 3. Rock sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	7				8				9				10			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
12	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	2
13	-	-	-	-	-	-	0	0	-	-	-	-	-	-	1	1
14	-	-	-	-	-	-	1	1	-	-	-	-	-	-	3	3
15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	1	1
16	-	-	1	1	-	-	3	3	-	-	-	-	-	-	0	0
17	-	-	0	0	-	-	4	4	-	-	-	-	-	-	1	1
18	-	-	1	1	-	-	7	7	-	-	-	-	-	-	2	2
19	-	-	0	0	-	-	7	7	-	-	1	1	-	-	2	2
20	-	-	0	0	-	-	8	8	-	-	1	1	-	-	7	7
21	-	-	0	0	-	-	5	5	-	-	1	1	-	-	2	2
22	-	-	0	0	-	-	9	9	-	-	0	0	-	-	5	5
23	-	-	0	0	-	-	7	7	-	-	0	0	-	-	3	3
24	-	-	0	0	-	-	4	4	-	-	2	2	-	-	1	1
25	-	-	1	1	-	-	2	2	-	-	1	1	-	-	2	2
26	-	-	0	0	-	-	4	4	-	-	1	1	-	-	2	2
27	-	-	0	0	-	-	1	1	-	-	-	-	-	-	1	1
28	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
29	-	-	0	0	-	-	0	0	-	-	-	-	-	-	1	1
30	-	-	1	1	-	-	1	1	-	-	-	-	-	-	0	0
31	-	-	0	0	-	-	2	2	-	-	-	-	-	-	0	0
32	-	-	0	0	-	-	2	2	-	-	-	-	-	-	0	0
33	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
34	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
35	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
36	-	-	0	0	-	-	0	0	-	-	-	-	-	-	1	1
37	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
38	-	-	1	1	-	-	0	0	-	-	-	-	-	-	-	-
39	-	-	1	1	-	-	0	0	-	-	-	-	-	-	-	-
40	-	-	0	0	-	-	1	1	-	-	-	-	-	-	-	-
41	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
42	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
43	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
44	-	-	0	0	-	-	1	1	-	-	-	-	-	-	-	-
45	-	-	0	0	-	-	1	1	-	-	-	-	-	-	-	-
46	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
47	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
48	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
49	-	-	0	0	-	-	0	0	-	-	-	-	-	-	-	-
50	-	-	1	1	-	-	0	0	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	7	7	0	0	72	72	0	0	7	7	0	0	38	38

Appendix table 3. Rock sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	11				13				14				15			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	2	2	-	-	1	1
9	-	-	-	-	-	-	-	-	-	-	1	1	-	-	0	0
10	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
11	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
12	-	-	0	0	-	-	-	-	-	-	3	3	-	-	0	0
13	-	-	1	1	-	-	-	-	-	-	1	1	-	-	0	0
14	-	-	0	0	-	-	-	-	-	-	1	1	-	-	0	0
15	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
16	-	-	0	0	-	-	6	6	-	-	0	0	-	-	0	0
17	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
18	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
19	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
20	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
21	-	-	1	1	-	-	0	0	-	-	0	0	-	-	0	0
22	-	-	0	0	-	-	6	6	-	-	1	1	-	-	0	0
23	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
24	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
25	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
26	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
27	-	-	0	0	-	-	6	6	-	-	0	0	-	-	0	0
28	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
29	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
30	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
31	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
32	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
33	-	-	1	1	-	-	-	-	-	-	0	0	-	-	1	1
34	-	-	1	1	-	-	-	-	-	-	0	0	-	-	1	1
35	-	-	3	3	-	-	-	-	-	-	2	2	-	-	1	1
36	-	-	0	0	-	-	-	-	-	-	0	0	-	-	1	1
37	-	-	0	0	-	-	-	-	-	-	0	0	-	-	4	4
38	-	-	1	1	-	-	-	-	-	-	0	0	-	-	2	2
39	-	-	1	1	-	-	-	-	-	-	2	2	-	-	0	0
40	-	-	1	1	-	-	-	-	-	-	0	0	-	-	1	1
41	-	-	3	3	-	-	-	-	-	-	2	2	-	-	2	2
42	-	-	2	2	-	-	-	-	-	-	0	0	-	-	4	4
43	-	-	1	1	-	-	-	-	-	-	0	0	-	-	4	4
44	-	-	0	0	-	-	-	-	-	-	1	1	-	-	1	1
45	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
46	-	-	2	2	-	-	-	-	-	-	1	1	-	-	0	0
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	21	21	0	0	18	18	0	0	17	17	0	0	24	24

Appendix table 3. Rock sole length frequencies (numbers) by haul.
F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	16				17				18				19			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	4	4	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-
13	-	-	1	1	-	-	4	4	-	-	-	-	-	-	1	1
14	-	-	0	0	-	-	2	2	-	-	-	-	-	-	0	0
15	-	-	0	0	-	-	2	2	-	-	-	-	-	-	0	0
16	-	-	1	1	-	-	3	3	-	-	-	-	-	-	0	0
17	-	-	0	0	-	-	2	2	-	-	-	-	-	-	0	0
18	-	-	1	1	-	-	1	1	-	-	-	-	-	-	0	0
19	-	-	0	0	-	-	2	2	-	-	-	-	-	-	4	4
20	-	-	1	1	-	-	1	1	-	-	-	-	-	-	2	2
21	-	-	0	0	-	-	0	0	-	-	-	-	-	-	2	2
22	-	-	0	0	-	-	1	1	-	-	-	-	-	-	3	3
23	-	-	0	0	-	-	2	2	-	-	-	-	-	-	3	3
24	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
25	-	-	1	1	-	-	1	1	-	-	-	-	-	-	2	2
26	-	-	0	0	-	-	1	1	-	-	-	-	-	-	2	2
27	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
28	-	-	0	0	-	-	1	1	-	-	-	-	-	-	1	1
29	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
30	-	-	2	2	-	-	-	-	-	-	-	-	-	-	1	1
31	-	-	1	1	-	-	-	-	-	-	-	-	-	-	0	0
32	-	-	6	6	-	-	-	-	-	-	-	-	-	-	1	1
33	-	-	2	2	-	-	-	-	-	-	-	-	-	-	0	0
34	-	-	4	4	-	-	-	-	-	-	-	-	-	-	0	0
35	-	-	7	7	-	-	-	-	-	-	-	-	-	-	1	1
36	-	-	8	8	-	-	-	-	-	-	1	1	-	-	0	0
37	-	-	5	5	-	-	-	-	-	-	0	0	-	-	0	0
38	-	-	5	5	-	-	-	-	-	-	1	1	-	-	0	0
39	-	-	7	7	-	-	-	-	-	-	1	1	-	-	0	0
40	-	-	6	6	-	-	-	-	-	-	1	1	-	-	1	1
41	-	-	7	7	-	-	-	-	-	-	2	2	-	-	-	-
42	-	-	2	2	-	-	-	-	-	-	0	0	-	-	-	-
43	-	-	8	8	-	-	-	-	-	-	2	2	-	-	-	-
44	-	-	6	6	-	-	-	-	-	-	0	0	-	-	-	-
45	-	-	4	4	-	-	-	-	-	-	1	1	-	-	-	-
46	-	-	0	0	-	-	-	-	-	-	1	1	-	-	-	-
47	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	86	86	0	0	32	32	0	0	10	10	0	0	24	24

Appendix table 3. Rock sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	20				21				23				24			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
8	-	-	1	1	-	-	-	-	-	-	0	0	-	-	-	-
9	-	-	0	0	-	-	-	-	-	-	0	0	-	-	-	-
10	-	-	2	2	-	-	-	-	-	-	0	0	-	-	-	-
11	-	-	4	4	-	-	2	2	-	-	0	0	-	-	1	1
12	-	-	3	3	-	-	0	0	-	-	1	1	-	-	2	2
13	-	-	4	4	-	-	0	0	-	-	4	4	-	-	0	0
14	-	-	2	2	-	-	12	12	-	-	3	3	-	-	0	0
15	-	-	0	0	-	-	14	14	-	-	3	3	-	-	1	1
16	-	-	1	1	-	-	6	6	-	-	5	5	-	-	3	3
17	-	-	1	1	-	-	14	14	-	-	25	25	-	-	2	2
18	-	-	0	0	-	-	10	10	-	-	26	26	-	-	4	4
19	-	-	0	0	-	-	20	20	-	-	37	37	-	-	1	1
20	-	-	3	3	-	-	20	20	-	-	34	34	-	-	7	7
21	-	-	0	0	-	-	22	22	-	-	47	47	-	-	5	5
22	-	-	1	1	-	-	16	16	-	-	48	48	-	-	2	2
23	-	-	0	0	-	-	22	22	-	-	38	38	-	-	3	3
24	-	-	0	0	-	-	10	10	-	-	33	33	-	-	5	5
25	-	-	1	1	-	-	10	10	-	-	37	37	-	-	6	6
26	-	-	1	1	-	-	6	6	-	-	28	28	-	-	4	4
27	-	-	2	2	-	-	8	8	-	-	19	19	-	-	2	2
28	-	-	1	1	-	-	2	2	-	-	8	8	-	-	5	5
29	-	-	2	2	-	-	2	2	-	-	3	3	-	-	2	2
30	-	-	0	0	-	-	-	-	-	-	2	2	-	-	2	2
31	-	-	1	1	-	-	-	-	-	-	1	1	-	-	2	2
32	-	-	1	1	-	-	-	-	-	-	2	2	-	-	2	2
33	-	-	5	5	-	-	-	-	-	-	0	0	-	-	1	1
34	-	-	3	3	-	-	-	-	-	-	1	1	-	-	1	1
35	-	-	4	4	-	-	-	-	-	-	0	0	-	-	2	2
36	-	-	5	5	-	-	-	-	-	-	1	1	-	-	3	3
37	-	-	3	3	-	-	-	-	-	-	0	0	-	-	1	1
38	-	-	1	1	-	-	-	-	-	-	0	0	-	-	2	2
39	-	-	0	0	-	-	-	-	-	-	0	0	-	-	2	2
40	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
41	-	-	4	4	-	-	-	-	-	-	0	0	-	-	0	0
42	-	-	1	1	-	-	-	-	-	-	1	1	-	-	0	0
43	-	-	2	2	-	-	-	-	-	-	-	-	-	-	1	1
44	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	67	67	0	0	196	196	0	0	408	408	0	0	74	74

Appendix table 3. Rock sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	25				26				27				28			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	1	1	-	-	1	1	-	-	-	-
12	-	-	-	-	-	-	3	3	-	-	0	0	-	-	2	2
13	-	-	2	2	-	-	2	2	-	-	0	0	-	-	3	3
14	-	-	2	2	-	-	1	1	-	-	0	0	-	-	5	5
15	-	-	4	4	-	-	1	1	-	-	0	0	-	-	0	0
16	-	-	3	3	-	-	0	0	-	-	1	1	-	-	7	7
17	-	-	5	5	-	-	4	4	-	-	0	0	-	-	11	11
18	-	-	10	10	-	-	3	3	-	-	0	0	-	-	13	13
19	-	-	9	9	-	-	6	6	-	-	1	1	-	-	18	18
20	-	-	10	10	-	-	2	2	-	-	0	0	-	-	21	21
21	-	-	14	14	-	-	5	5	-	-	0	0	-	-	10	10
22	-	-	15	15	-	-	3	3	-	-	1	1	-	-	9	9
23	-	-	9	9	-	-	1	1	-	-	0	0	-	-	7	7
24	-	-	8	8	-	-	1	1	-	-	0	0	-	-	8	8
25	-	-	8	8	-	-	1	1	-	-	0	0	-	-	10	10
26	-	-	6	6	-	-	1	1	-	-	0	0	-	-	4	4
27	-	-	2	2	-	-	1	1	-	-	1	1	-	-	9	9
28	-	-	2	2	-	-	1	1	-	-	0	0	-	-	5	5
29	-	-	1	1	-	-	0	0	-	-	1	1	-	-	2	2
30	-	-	1	1	-	-	0	0	-	-	0	0	-	-	1	1
31	-	-	0	0	-	-	0	0	-	-	0	0	-	-	1	1
32	-	-	3	3	-	-	3	3	-	-	0	0	-	-	0	0
33	-	-	1	1	-	-	0	0	-	-	1	1	-	-	0	0
34	-	-	2	2	-	-	1	1	-	-	1	1	-	-	1	1
35	-	-	1	1	-	-	1	1	-	-	2	2	-	-	0	0
36	-	-	0	0	-	-	1	1	-	-	1	1	-	-	2	2
37	-	-	0	0	-	-	2	2	-	-	1	1	-	-	4	4
38	-	-	1	1	-	-	2	2	-	-	3	3	-	-	0	0
39	-	-	-	-	-	-	0	0	-	-	3	3	-	-	4	4
40	-	-	-	-	-	-	0	0	-	-	3	3	-	-	2	2
41	-	-	-	-	-	-	0	0	-	-	1	1	-	-	0	0
42	-	-	-	-	-	-	0	0	-	-	1	1	-	-	0	0
43	-	-	-	-	-	-	1	1	-	-	1	1	-	-	1	1
44	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	0	0	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	119	119	0	0	48	48	0	0	25	25	0	0	160	160

Appendix table 3. Rock sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	29				30				31				32			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
11	-	-	1	1	-	-	-	-	-	-	-	-	-	-	0	0
12	-	-	1	1	-	-	-	-	-	-	-	-	-	-	0	0
13	-	-	2	2	-	-	-	-	-	-	-	-	-	-	0	0
14	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
15	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
16	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
17	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
18	-	-	0	0	-	-	-	-	-	-	-	-	-	-	0	0
19	-	-	0	0	-	-	1	1	-	-	-	-	-	-	1	1
20	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
21	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
22	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
23	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
24	-	-	0	0	-	-	0	0	-	-	-	-	-	-	0	0
25	-	-	0	0	-	-	0	0	-	-	1	1	-	-	0	0
26	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
27	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
28	-	-	1	1	-	-	0	0	-	-	0	0	-	-	0	0
29	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
30	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
31	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
32	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
33	-	-	0	0	-	-	1	1	-	-	0	0	-	-	0	0
34	-	-	1	1	-	-	-	-	-	-	1	1	-	-	1	1
35	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
36	-	-	1	1	-	-	-	-	-	-	1	1	-	-	0	0
37	-	-	2	2	-	-	-	-	-	-	1	1	-	-	1	1
38	-	-	2	2	-	-	-	-	-	-	0	0	-	-	0	0
39	-	-	1	1	-	-	-	-	-	-	1	1	-	-	1	1
40	-	-	1	1	-	-	-	-	-	-	0	0	-	-	2	2
41	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
42	-	-	2	2	-	-	-	-	-	-	1	1	-	-	2	2
43	-	-	1	1	-	-	-	-	-	-	2	2	-	-	0	0
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	17	17	0	0	2	2	0	0	8	8	0	0	10	10

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	3				4				7				10			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	2	2	-	-	6	6
11	-	-	2	2	-	-	-	-	-	-	2	2	-	-	20	20
12	-	-	6	6	-	-	-	-	-	-	2	2	-	-	15	15
13	-	-	2	2	-	-	-	-	-	-	-	-	-	-	11	11
14	-	-	3	3	-	-	-	-	-	-	-	-	-	-	7	7
15	-	-	4	4	-	-	4	4	-	-	-	-	-	-	3	3
16	-	-	1	1	-	-	7	7	-	-	-	-	-	-	0	0
17	-	-	1	1	-	-	12	12	-	-	-	-	-	-	1	1
18	-	-	2	2	-	-	23	23	-	-	-	-	-	-	-	-
19	-	-	2	2	-	-	20	20	-	-	-	-	-	-	-	-
20	-	-	1	1	-	-	13	13	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	12	12	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	15	15	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	6	6	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	8	8	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	5	5	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	4	4	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	24	24	0	0	145	145	0	0	7	7	0	0	63	63

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	11				13				14				15			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	3	3	-	-	-	-
11	-	-	5	5	-	-	-	-	-	-	5	5	-	-	-	-
12	-	-	1	1	-	-	-	-	-	-	2	2	-	-	1	1
13	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-
14	-	-	-	-	-	-	18	18	-	-	0	0	-	-	-	-
15	-	-	-	-	-	-	18	18	-	-	0	0	-	-	-	-
16	-	-	-	-	-	-	18	18	-	-	1	1	-	-	-	-
17	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
18	-	-	-	-	-	-	36	36	-	-	0	0	-	-	-	-
19	-	-	-	-	-	-	18	18	-	-	0	0	-	-	-	-
20	-	-	-	-	-	-	18	18	-	-	0	0	-	-	-	-
21	-	-	-	-	-	-	18	18	-	-	0	0	-	-	-	-
22	-	-	-	-	-	-	18	18	-	-	0	0	-	-	-	-
23	-	-	-	-	-	-	24	24	-	-	0	0	-	-	-	-
24	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
25	-	-	-	-	-	-	18	18	-	-	1	1	-	-	-	-
26	-	-	-	-	-	-	6	6	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	6	6	0	0	210	210	0	0	13	13	0	0	1	1

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	17				18				19				21			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	3	3	-	-	-	-	-	-	-	-	-	-	35	35
10	-	-	17	17	-	-	1	1	-	-	1	1	-	-	164	164
11	-	-	22	22	-	-	2	2	-	-	3	3	-	-	124	124
12	-	-	12	12	-	-	-	-	-	-	10	10	-	-	51	51
13	-	-	7	7	-	-	-	-	-	-	14	14	-	-	26	26
14	-	-	3	3	-	-	-	-	-	-	7	7	-	-	14	14
15	-	-	3	3	-	-	-	-	-	-	6	6	-	-	3	3
16	-	-	0	0	-	-	-	-	-	-	11	11	-	-	6	6
17	-	-	1	1	-	-	-	-	-	-	13	13	-	-	14	14
18	-	-	5	5	-	-	-	-	-	-	4	4	-	-	15	15
19	-	-	2	2	-	-	-	-	-	-	1	1	-	-	11	11
20	-	-	4	4	-	-	-	-	-	-	2	2	-	-	12	12
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	7
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	79	79	0	0	3	3	0	0	72	72	0	0	549	549

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	23				24				25				26			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	1	1	-	-	-	-	-	-	1	1	-	-	1	1
10	-	-	2	2	-	-	-	-	-	-	60	60	-	-	8	8
11	-	-	17	17	-	-	3	3	-	-	104	104	-	-	10	10
12	-	-	14	14	-	-	3	3	-	-	82	82	-	-	9	9
13	-	-	7	7	-	-	2	2	-	-	29	29	-	-	2	2
14	-	-	7	7	-	-	1	1	-	-	6	6	-	-	1	1
15	-	-	3	3	-	-	0	0	-	-	3	3	-	-	0	0
16	-	-	1	1	-	-	0	0	-	-	0	0	-	-	0	0
17	-	-	2	2	-	-	1	1	-	-	0	0	-	-	0	0
18	-	-	0	0	-	-	1	1	-	-	0	0	-	-	0	0
19	-	-	0	0	-	-	0	0	-	-	0	0	-	-	0	0
20	-	-	0	0	-	-	0	0	-	-	1	1	-	-	0	0
21	-	-	0	0	-	-	1	1	-	-	0	0	-	-	1	1
22	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
23	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
24	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
25	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
26	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
27	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
28	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
29	-	-	0	0	-	-	-	-	-	-	1	1	-	-	0	0
30	-	-	0	0	-	-	-	-	-	-	0	0	-	-	0	0
31	-	-	0	0	-	-	-	-	-	-	1	1	-	-	0	0
32	-	-	1	1	-	-	-	-	-	-	0	0	-	-	0	0
33	-	-	1	1	-	-	-	-	-	-	2	2	-	-	0	0
34	-	-	0	0	-	-	-	-	-	-	1	1	-	-	0	0
35	-	-	2	2	-	-	-	-	-	-	2	2	-	-	1	1
36	-	-	3	3	-	-	-	-	-	-	2	2	-	-	-	-
37	-	-	1	1	-	-	-	-	-	-	2	2	-	-	-	-
38	-	-	3	3	-	-	-	-	-	-	0	0	-	-	-	-
39	-	-	4	4	-	-	-	-	-	-	0	0	-	-	-	-
40	-	-	2	2	-	-	-	-	-	-	1	1	-	-	-	-
41	-	-	1	1	-	-	-	-	-	-	0	0	-	-	-	-
42	-	-	1	1	-	-	-	-	-	-	2	2	-	-	-	-
43	-	-	2	2	-	-	-	-	-	-	1	1	-	-	-	-
44	-	-	3	3	-	-	-	-	-	-	1	1	-	-	-	-
45	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	83	83	0	0	12	12	0	0	302	302	0	0	33	33

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	27				28				29				30			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	4	4	-	-	-	-	-	-	1	1	-	-	-	-
11	-	-	6	6	-	-	2	2	-	-	-	-	-	-	1	1
12	-	-	1	1	-	-	1	1	-	-	-	-	-	-	1	1
13	-	-	-	-	-	-	0	0	-	-	-	-	-	-	1	1
14	-	-	-	-	-	-	0	0	-	-	-	-	-	-	2	2
15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	1	1
16	-	-	-	-	-	-	0	0	-	-	-	-	-	-	7	7
17	-	-	-	-	-	-	2	2	-	-	-	-	-	-	8	8
18	-	-	-	-	-	-	5	5	-	-	-	-	-	-	8	8
19	-	-	-	-	-	-	12	12	-	-	-	-	-	-	7	7
20	-	-	-	-	-	-	5	5	-	-	-	-	-	-	8	8
21	-	-	-	-	-	-	10	10	-	-	-	-	-	-	9	9
22	-	-	-	-	-	-	9	9	-	-	-	-	-	-	13	13
23	-	-	-	-	-	-	8	8	-	-	-	-	-	-	8	8
24	-	-	-	-	-	-	6	6	-	-	-	-	-	-	8	8
25	-	-	-	-	-	-	9	9	-	-	-	-	-	-	11	11
26	-	-	-	-	-	-	5	5	-	-	-	-	-	-	8	8
27	-	-	-	-	-	-	4	4	-	-	-	-	-	-	9	9
28	-	-	-	-	-	-	6	6	-	-	-	-	-	-	3	3
29	-	-	-	-	-	-	5	5	-	-	-	-	-	-	5	5
30	-	-	-	-	-	-	6	6	-	-	-	-	-	-	10	10
31	-	-	-	-	-	-	7	7	-	-	-	-	-	-	9	9
32	-	-	-	-	-	-	2	2	-	-	-	-	-	-	5	5
33	-	-	-	-	-	-	5	5	-	-	-	-	-	-	5	5
34	-	-	-	-	-	-	5	5	-	-	-	-	-	-	4	4
35	-	-	-	-	-	-	2	2	-	-	-	-	-	-	1	1
36	-	-	-	-	-	-	2	2	-	-	-	-	-	-	1	1
37	-	-	-	-	-	-	0	0	-	-	-	-	-	-	3	3
38	-	-	-	-	-	-	1	1	-	-	-	-	-	-	1	1
39	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	12	12	0	0	122	122	0	0	1	1	0	0	157	157

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	33				34				35				36			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
34	-	-	-	-	-	-	-	-	-	-	2	2	-	-	1	1
35	-	-	-	-	-	-	-	-	-	-	0	0	-	-	2	2
36	-	-	-	-	-	-	-	-	-	-	1	1	-	-	0	0
37	-	-	-	-	-	-	1	1	-	-	1	1	-	-	1	1
38	-	-	-	-	-	-	2	2	-	-	0	0	-	-	0	0
39	-	-	-	-	-	-	1	1	-	-	0	0	-	-	0	0
40	-	-	-	-	-	-	1	1	-	-	1	1	-	-	1	1
41	-	-	-	-	-	-	0	0	-	-	0	0	-	-	0	0
42	-	-	-	-	-	-	3	3	-	-	0	0	-	-	0	0
43	-	-	2	2	-	-	0	0	-	-	0	0	-	-	0	0
44	-	-	0	0	-	-	0	0	-	-	0	0	-	-	1	1
45	-	-	2	2	-	-	0	0	-	-	0	0	-	-	-	-
46	-	-	0	0	-	-	1	1	-	-	0	0	-	-	-	-
47	-	-	0	0	-	-	-	-	-	-	0	0	-	-	-	-
48	-	-	0	0	-	-	-	-	-	-	0	0	-	-	-	-
49	-	-	0	0	-	-	-	-	-	-	1	1	-	-	-	-
50	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	5	5	0	0	9	9	0	0	6	6	0	0	8	8

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	38				39				40				41			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	3	3	-	-	-	-	-	-	2	2
10	-	-	-	-	-	-	11	11	-	-	-	-	-	-	9	9
11	-	-	-	-	-	-	10	10	-	-	-	-	-	-	0	0
12	-	-	-	-	-	-	5	5	-	-	-	-	-	-	1	1
13	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
16	-	-	7	7	-	-	2	2	-	-	-	-	-	-	-	-
17	-	-	14	14	-	-	3	3	-	-	-	-	-	-	-	-
18	-	-	20	20	-	-	2	2	-	-	-	-	-	-	-	-
19	-	-	17	17	-	-	0	0	-	-	-	-	-	-	-	-
20	-	-	8	8	-	-	1	1	-	-	-	-	-	-	-	-
21	-	-	14	14	-	-	0	0	-	-	-	-	-	-	-	-
22	-	-	36	36	-	-	0	0	-	-	-	-	-	-	-	-
23	-	-	33	33	-	-	0	0	-	-	-	-	-	-	-	-
24	-	-	44	44	-	-	0	0	-	-	1	1	-	-	-	-
25	-	-	31	31	-	-	0	0	-	-	0	0	-	-	-	-
26	-	-	19	19	-	-	0	0	-	-	0	0	-	-	-	-
27	-	-	27	27	-	-	0	0	-	-	0	0	-	-	-	-
28	-	-	22	22	-	-	0	0	-	-	0	0	-	-	-	-
29	-	-	22	22	-	-	0	0	-	-	0	0	-	-	-	-
30	-	-	19	19	-	-	0	0	-	-	0	0	-	-	-	-
31	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
32	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
33	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
34	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
35	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
36	-	-	-	-	-	-	2	2	-	-	1	1	-	-	-	-
37	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
38	-	-	-	-	-	-	1	1	-	-	0	0	-	-	-	-
39	-	-	-	-	-	-	0	0	-	-	1	1	-	-	-	-
40	-	-	-	-	-	-	0	0	-	-	1	1	-	-	-	-
41	-	-	-	-	-	-	0	0	-	-	1	1	-	-	-	-
42	-	-	-	-	-	-	1	1	-	-	2	2	-	-	-	-
43	-	-	-	-	-	-	0	0	-	-	2	2	-	-	-	-
44	-	-	-	-	-	-	0	0	-	-	1	1	-	-	-	-
45	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
46	-	-	-	-	-	-	0	0	-	-	0	0	-	-	-	-
47	-	-	-	-	-	-	1	1	-	-	1	1	-	-	-	-
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	333	333	0	0	49	49	0	0	11	11	0	0	12	12

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	42				43				46				47			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
9	-	-	1	1	-	-	22	22	-	-	-	-	-	-	11	11
10	-	-	2	2	-	-	128	128	-	-	2	2	-	-	135	135
11	-	-	-	-	-	-	161	161	-	-	1	1	-	-	117	117
12	-	-	-	-	-	-	59	59	-	-	1	1	-	-	33	33
13	-	-	-	-	-	-	11	11	-	-	-	-	-	-	9	9
14	-	-	-	-	-	-	4	4	-	-	-	-	-	-	0	0
15	-	-	-	-	-	-	0	0	-	-	-	-	-	-	2	2
16	-	-	-	-	-	-	0	0	-	-	-	-	-	-	3	3
17	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	3	3	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-
TOTAL	0	0	3	3	0	0	396	396	0	0	4	4	0	0	310	310

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	50				51				52				54			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
9	-	-	13	13	-	-	2	2	-	-	-	-	-	-	13	13
10	-	-	160	160	-	-	20	20	-	-	3	3	-	-	49	49
11	-	-	200	200	-	-	37	37	-	-	6	6	-	-	51	51
12	-	-	109	109	-	-	14	14	-	-	9	9	-	-	19	19
13	-	-	25	25	-	-	15	15	-	-	5	5	-	-	4	4
14	-	-	10	10	-	-	15	15	-	-	2	2	-	-	3	3
15	-	-	4	4	-	-	45	45	-	-	9	9	-	-	0	0
16	-	-	1	1	-	-	72	72	-	-	11	11	-	-	1	1
17	-	-	3	3	-	-	81	81	-	-	11	11	-	-	0	0
18	-	-	2	2	-	-	96	96	-	-	7	7	-	-	0	0
19	-	-	0	0	-	-	78	78	-	-	3	3	-	-	0	0
20	-	-	0	0	-	-	53	53	-	-	5	5	-	-	1	1
21	-	-	0	0	-	-	56	56	-	-	2	2	-	-	0	0
22	-	-	0	0	-	-	34	34	-	-	-	-	-	-	0	0
23	-	-	0	0	-	-	23	23	-	-	-	-	-	-	1	1
24	-	-	0	0	-	-	15	15	-	-	-	-	-	-	0	0
25	-	-	0	0	-	-	13	13	-	-	-	-	-	-	0	0
26	-	-	1	1	-	-	9	9	-	-	-	-	-	-	0	0
27	-	-	0	0	-	-	12	12	-	-	-	-	-	-	1	1
28	-	-	0	0	-	-	13	13	-	-	-	-	-	-	1	1
29	-	-	1	1	-	-	12	12	-	-	-	-	-	-	0	0
30	-	-	-	-	-	-	8	8	-	-	-	-	-	-	0	0
31	-	-	-	-	-	-	9	9	-	-	-	-	-	-	0	0
32	-	-	-	-	-	-	8	8	-	-	-	-	-	-	2	2
33	-	-	-	-	-	-	10	10	-	-	-	-	-	-	0	0
34	-	-	-	-	-	-	6	6	-	-	-	-	-	-	1	1
35	-	-	-	-	-	-	5	5	-	-	-	-	-	-	1	1
36	-	-	-	-	-	-	6	6	-	-	-	-	-	-	1	1
37	-	-	-	-	-	-	7	7	-	-	-	-	-	-	2	2
38	-	-	-	-	-	-	16	16	-	-	-	-	-	-	1	1
39	-	-	-	-	-	-	9	9	-	-	-	-	-	-	1	1
40	-	-	-	-	-	-	8	8	-	-	-	-	-	-	0	0
41	-	-	-	-	-	-	7	7	-	-	-	-	-	-	0	0
42	-	-	-	-	-	-	6	6	-	-	-	-	-	-	0	0
43	-	-	-	-	-	-	4	4	-	-	-	-	-	-	2	2
44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
47	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	529	529	0	0	824	824	0	0	73	73	0	0	158	158

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	55				57				60				62			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	25	25	-	-	5	5
11	-	-	5	5	-	-	-	-	-	-	72	72	-	-	11	11
12	-	-	1	1	-	-	-	-	-	-	59	59	-	-	9	9
13	-	-	4	4	-	-	-	-	-	-	18	18	-	-	3	3
14	-	-	6	6	-	-	-	-	-	-	3	3	-	-	2	2
15	-	-	9	9	-	-	-	-	-	-	-	-	-	-	0	0
16	-	-	10	10	-	-	-	-	-	-	-	-	-	-	0	0
17	-	-	26	26	-	-	-	-	-	-	-	-	-	-	0	0
18	-	-	39	39	-	-	-	-	-	-	-	-	-	-	0	0
19	-	-	46	46	-	-	-	-	-	-	-	-	-	-	0	0
20	-	-	46	46	-	-	-	-	-	-	-	-	-	-	0	0
21	-	-	42	42	-	-	-	-	-	-	-	-	-	-	0	0
22	-	-	54	54	-	-	-	-	-	-	-	-	-	-	0	0
23	-	-	34	34	-	-	26	26	-	-	-	-	-	-	0	0
24	-	-	45	45	-	-	12	12	-	-	-	-	-	-	0	0
25	-	-	33	33	-	-	0	0	-	-	-	-	-	-	0	0
26	-	-	29	29	-	-	12	12	-	-	-	-	-	-	0	0
27	-	-	13	13	-	-	38	38	-	-	-	-	-	-	0	0
28	-	-	23	23	-	-	26	26	-	-	-	-	-	-	0	0
29	-	-	17	17	-	-	38	38	-	-	-	-	-	-	0	0
30	-	-	11	11	-	-	26	26	-	-	-	-	-	-	0	0
31	-	-	7	7	-	-	50	50	-	-	-	-	-	-	0	0
32	-	-	10	10	-	-	26	26	-	-	-	-	-	-	0	0
33	-	-	4	4	-	-	140	140	-	-	-	-	-	-	0	0
34	-	-	4	4	-	-	76	76	-	-	-	-	-	-	0	0
35	-	-	3	3	-	-	114	114	-	-	-	-	-	-	0	0
36	-	-	3	3	-	-	140	140	-	-	-	-	-	-	0	0
37	-	-	2	2	-	-	90	90	-	-	-	-	-	-	0	0
38	-	-	4	4	-	-	38	38	-	-	-	-	-	-	0	0
39	-	-	3	3	-	-	64	64	-	-	-	-	-	-	0	0
40	-	-	-	-	-	-	26	26	-	-	-	-	-	-	0	0
41	-	-	-	-	-	-	64	64	-	-	-	-	-	-	0	0
42	-	-	-	-	-	-	38	38	-	-	-	-	-	-	0	0
43	-	-	-	-	-	-	26	26	-	-	-	-	-	-	1	1
44	-	-	-	-	-	-	26	26	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	26	26	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	0	0	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	26	26	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	0	0	533	533	0	0	1148	1148	0	0	177	177	0	0	31	31

Appendix table 4. English sole length frequencies (numbers) by haul. F/V SUNNFJORD, Hecate Strait, April 9-26, 1985.

TOW NO.	72				74			
FORK LENGTH (CM)	M	F	U	T	M	F	U	T
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	22	22
10	-	-	-	-	-	-	228	228
11	-	-	1	1	-	-	389	389
12	-	-	0	0	-	-	197	197
13	-	-	0	0	-	-	80	80
14	-	-	0	0	-	-	34	34
15	-	-	0	0	-	-	22	22
16	-	-	0	0	-	-	19	19
17	-	-	0	0	-	-	19	19
18	-	-	0	0	-	-	22	22
19	-	-	1	1	-	-	22	22
20	-	-	-	-	-	-	12	12
21	-	-	-	-	-	-	12	12
22	-	-	-	-	-	-	6	6
23	-	-	-	-	-	-	3	3
24	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-
31	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-
33	-	-	-	-	-	-	-	-
34	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-
36	-	-	-	-	-	-	-	-
37	-	-	-	-	-	-	-	-
38	-	-	-	-	-	-	-	-
39	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-
41	-	-	-	-	-	-	-	-
42	-	-	-	-	-	-	-	-
43	-	-	-	-	-	-	-	-
44	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-
46	-	-	-	-	-	-	-	-
47	-	-	-	-	-	-	-	-
48	-	-	-	-	-	-	-	-
49	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-
TOTAL	0	0	2	2	0	0	1087	1087

Appendix table 5. Fork lengths (cm) of individual Pacific halibut caught during the sixth annual trawl survey for juvenile flatfish in Hecate Strait (5C + 5D), by haul, area, and 10-fath depth intervals, April 1985.

Haul no.	3	5	6	7	8	10	14	20	21	23	25	27	28	29	31	32	34	35	36	37
Area	5C	5C	5C	5C	5C	5C	5C	5D	5D	5D	5D	5D	5D	5D	5D	5D	5D	5D	5D	5D
Depth (fath)	40	20	20	30	30	40	20	20	30	40	40	20	40	10	20	10	50	40	40	30
	59	55	57	58	59	55	50	66	115	54	47	55	65	37	42	43	48	42	55	64
			68	77			120	69	125	54	68	58	89		58	54	52	49	56	79
								75		73		75			59	64	53	63	60	
								75							60		53	64	61	
															62		55	76	65	
															110		56	85	66	
																			66	
																			70	
																			70	
																			70	
																			89	

Haul no.	42	43	44	46	47	49	51	52	54	55	57	58	59	60	61	62	63	65	74
Area	5D	5D	5D	5D	5D	5C	5C	5C	5D	5D	5D	5D	5D	5D	5D	5D	5D	5C	5C
Depth fath)	20	20	10	10	30	10	50	30	20	30	40	10	10	20	20	20	20	20	30
	67	55	72	73	52	67	64	93	22	54	45	44	38	52	24	38	66	110	64
		68		74	59	69	79		82	83	50	45	58	60		40	84		
		79				70	87				63		68	62		41			
						76					68		70			44			
						77					86		72			47			
						81					90		73			50			
						100					92		74			59			
											95		103			67			

Appendix table 6. Temperature (XBT) profiles for juvenile flatfish survey April 9-24, 1985.

No.	Day/mo.	Time (PST)	Position		Bottom Depth (m)	Bucket	Depth (m) temperature (°C)												
			Lat. N	Long. W			0	5	15	50	60	70	80	90	100	200	220		
1(5)	11/4	0300	51°24.0'	128°42.5'	220	[illegible]°	7.3	7.2	7.0	6.8	6.5	6.2	5.9	5.8	5.8	5.8	5.8		
							0	5	10	20	30	40	50	60	70	80	100	205	
2(13)	11/4	0800	52°00.0'	129°30.0'	205	7.0°	7.4	7.4	7.2	7.3	7.3	7.2	6.6	6.4	6.1	6.2	6.2	6.2	
							0	5	10	20	30	50	75	100	150	200	280		
3(33)	16/4	1444	54°24.5'	131°23.0'	280	-	6.5	6.8	6.6	6.4	6.3	6.2	6.0	5.9	5.9	5.9	5.9		
							0	5	10	20	30	50	60	70	85				
4(26)	22/4	1748	53°48.3'	130°56.5'	85	-	7.0	6.9	6.9	6.7	6.5	6.6	6.7	6.7	6.7				
							0	5	10	30	50	70	78						
5(42)	24/4	1515	53°06.1'	130°54.1'	78	8.0°	7.7	7.2	7.1	7.3	7.4	7.4	7.4						
							0	5	20	30	40	50	60	70	80	90	100	200	230
6(20)	24/4	2144	52°49.0'	130°10.8'	230	7.7°	7.4	7.3	7.0	6.8	6.7	6.6	6.1	5.7	5.3	5.2	5.2	5.2	5.2